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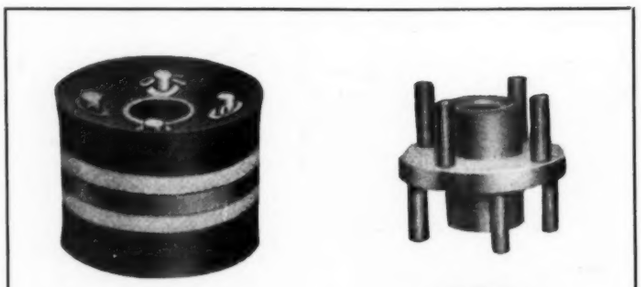

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Crude Oil Prices Expected to Approximate $1 or More Within Week Under Provisions of Code

By ANDREW M. ROWLEY

INCREASES in crude oil prices announced during the past week are just the beginning. Further advances will be made during this week in order to bring price structures within the provisions of the code for the oil industry. The average price of 36 gravity crude in the Mid-Continent area during the past five years has been $1.08 a barrel and, according to the spirit of the code, the new price, under the code, should be at least that figure.

Even that price will not permit much of a profit to the industry as no one, by any stretch of imagination, can say the oil business showed a great profit during the past five years. And, as has been pointed out, oil company expenses, under the code, will be increased because of labor, minimum wage and maximum hour features.

Crude oil purchasers might just as well realize now as later that the code becomes effective next Saturday and that crude oil prices must be advanced in the ratio of 18.5 times the Group 3 tank car price of 60-64 octane gasoline. On the basis of quotations of this grade of gasoline on Tuesday of this week 36 gravity crude in the Mid-Continent should be priced at from 79 to 83 cents a barrel.

The industry cannot wait until crude oil production is curtailed to quotas to be set by the Planning and Co-ordination Committee. As one oil company executive stated: "We might just as well take our medicine now and raise prices to $1 or more per barrel and take whatever loss accrues until production is reduced to requirements. We know we will have to do it, so why fool around?"

One feature of the code not generally understood is the provision that the new crude oil prices need not apply in states which fail to meet their production quotas. In other words crude oil prices may be made as low as necessary in states which do not curtail production to allocations set for them. This crude oil and products therefrom however will not be permitted to enter into competition with crude oil and products in states where the higher prices obtain because, under the code, the Federal government can prevent excess crude oil production and products thereof from entering interstate commerce. Markets will have to be found within the borders of the states failing to meet production quotas.

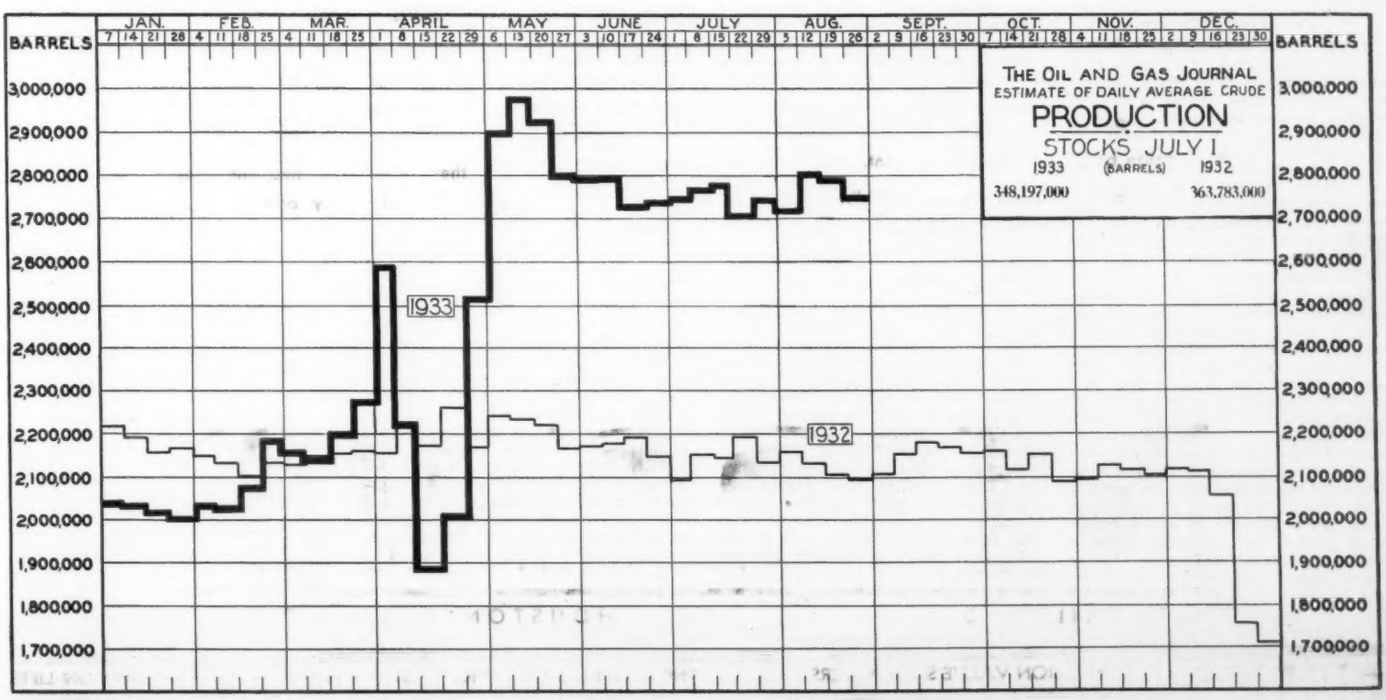
Naturally, there will be difficulties encountered in separating legally produced oil from that brought to the surface in excess of allowables, but that is one of the problems which will have to be handled by the Planning and Co-ordination Committee.

Crude Oil Production in the United States

Estimated daily average production for the week ending August 26, and a comparison with previous week and one year ago, follows:

	Aug. 26	Aug. 19	Aug. 27, 1932
Oklahoma—			
Oklahoma City	265,810	270,580	70,630
Seminole-St. Louis	130,935	137,440	110,215
Remainder of State	208,995	212,795	205,870
Total Oklahoma	605,740	620,815	386,715
East Texas—			
Lathrop	263,198	265,083	125,936
Kilgore	191,303	192,673	98,317
Joiner	170,672	171,894	103,463
Total East Texas	625,173	629,650	327,716
West Texas	161,218	161,455	172,758
North Central Texas	74,955	74,268	74,495
Texas Panhandle	47,587	49,303	53,671
East Central Texas	58,546	59,201	56,783
Gulf Coast—Texas	214,639	208,410	119,144
Southwest Texas	54,964	52,812	58,186
Total State of Texas	1,237,082	1,235,099	862,753
Kansas	129,050	129,110	95,220
North Louisiana	26,155	26,210	29,285
Gulf Coast—Louisiana	46,863	46,583	32,278
Arkansas	31,295	31,430	34,120
Eastern Fields	116,000	117,000	112,000
Rocky Mountain area	78,180	79,980	75,456
California—			
Santa Fe Springs	53,250	54,250	59,000
Long Beach	74,500	75,750	70,000
Playa Del Rey	11,000	11,000	14,750
Elwood	12,500	12,750	13,750
Kettleman Hills	63,750	61,500	59,750
Remainder of State	286,500	290,250	254,750
Total California	501,500	505,500	472,000
Total United States	2,771,865	2,791,727	2,099,827

Decrease 19,862 Bbls. Daily



Government Use of Group 3 as Basis for Prices in Code Follows Usual Practice of Industry

By C. O. WILLSON

With the NRA code for the petroleum industry scheduled to become effective Saturday the past week has been one of the busiest in the history of the industry for executives, departmental heads and others holding important positions having to do with personnel, wages and hours of employment. Hundreds of companies, both large and small, literally have been working night and day in an effort to perfect a reorganization of personnel in time to make the code effective on September 2. No one except those charged with the direct responsibility of making these changes can appreciate the herculean task with which they have been confronted. It can be said definitely that regardless of the extra burden involved, the great bulk of the industry is completing plans for 100 per cent participation in the NRA plan which will mean employment for thousands of additional men and women and substantial increases in pay rolls in all branches of the industry.

With these large increases in labor expenditures assured, individual units of the industry naturally are concerned with just where the revenue to cover these additional costs is to be obtained. It is pointed out that not only is the industry to enlarge its own labor outlays, but due to the workings of the codes in other industries the cost of everything that is purchased for use in the various phases of oil operations will be increased in the near future. Those who have made a study of this situation state that the full significance of this experiment in governmental control of industry will not be apparent for several weeks and possibly months. They feel that the additional costs to the oil industry will be much greater than now seem necessary and this in effect must mean gradually higher price levels for crude and its products after the first major adjustment is made to take care of the immediate increases in expenditures which start as soon as the code becomes effective.

Price Control Feature

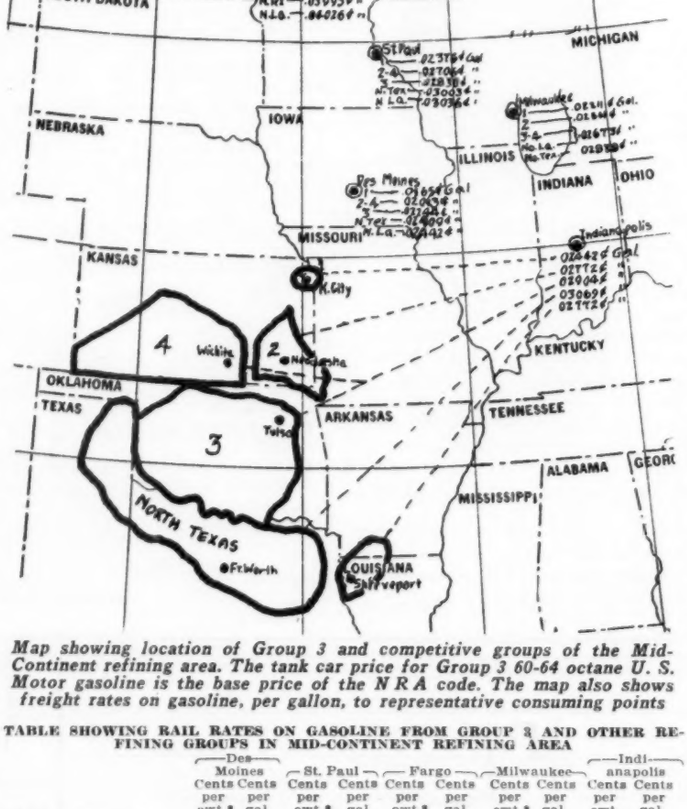
So far as the code for the petroleum industry is concerned, the manner in which the industry is to offset increased costs with enlarged revenue is confined to those sections in which a crude oil curtailment program is outlined followed by a section confined to price control. The latter, Section 6 of Article 3 of the code, which was published complete in the August 24 issue of The Oil and Gas Journal, is repeated here. This important section which has been the basis of many discussions over the past ten days is as follows:

"Section 6. During such periods as the production of crude petroleum in any state is within the allocation to that state, as provided in Section 3, Article 3, of this code, it shall be an unfair practice within that state to buy, sell, receive in exchange, or otherwise acquire Mid-Continent crude petroleum of 36°-36.9° A.P.I. gravity during any calendar month at a price per barrel (to the nearest cent) less than that which will be determined by multiplying the average Group 3 tank car price per gallon of U. S. Motor gasoline of 60-64 octane rating during the preceding calendar month as ascertained and declared by the Federal agency designated by the President, by the constant 18.5. The constant 18.5 represents the relationship, during the period 1928-1932, between the average price per barrel of Mid-Continent crude petroleum of 36°-36.9° A.P.I. gravity and the average Group 3 price per gallon of U. S. Motor gasoline of 57-65 octane rating or 58-60 U. S. Motor gasoline. For crude petroleum of lower or higher gravity and/or different quality and/or in different locality, fair and equitable differentials between the price of 36°-36.9° Mid-Continent crude petroleum, determined as above prescribed, and the prices quoted for other crude petroleums shall be observed. Each company or individual purchasing crude petroleum shall file a certified copy of its price schedule and subsequent price changes with the planning and co-ordination committee. Such contracts for the purchase of crude oil as were in existence on the effective date of this code shall not be affected by the provisions of this section during the period of the contract, provided that a certified copy of each such contract is filed with the planning and co-ordination committee within thirty (30) days of the effective date of this code. Such contracts, however, may not be renewed except with the approval of the planning and co-ordination committee."

What Is Group 3?

The first question asked by those not familiar with marketing operations has to do with the meaning of Group 3 in the foregoing section. Even among those more or less familiar with the details of the marketing operations, the thought has been expressed that the government plan of basing its price control program on the Group 3 price for a representative grade of motor fuel, was brought about by the strategy of some particular faction of the oil industry with the idea of benefiting themselves at the sacrifice of other sections of the country. Contrary to this view, market students are generally in agreement that conceding that some form of price control is desirable in the oil business, the code approved by the Government in selecting Group 3 as the base, has taken the most representative open market of the entire industry around which to determine price levels for all operations. This does not mean that these market observers approve the relationship established between gasoline and crude oil prices in the code. Their view is that the Government and the industry "had to start somewhere" in any price control program and the one designated has as sound a basis as is obtainable in the oil business. The fundamental conditions back of this selection will be explained later.

Inquiries sent to The Oil and Gas Journal over the past few days, usually from those engaged in the various phases of crude oil production, indicate a total lack of information as to what constitutes Group 3 in the marketing of gasoline. While a familiar term to those engaged either as buyers or sellers in tank car marketing it is "Greek" to the producers who in the future presumably must look to the Group 3 price to determine what they will obtain at the wells for their crude oil.



Map showing location of Group 3 and competitive groups of the Mid-Continent refining area. The tank car price for Group 3 60-64 octane U. S. Motor gasoline is the base price of the N R A code. The map also shows freight rates on gasoline, per gallon, to representative consuming points

TABLE SHOWING RAIL RATES ON GASOLINE FROM GROUP 3 AND OTHER REFINING GROUPS IN MID-CONTINENT REFINING AREA

	Des Moines		St. Paul		Fargo		Milwaukee		Indianapolis	
	Cents per cwt.*	Cents per gal.	Cents per cwt.*	Cents per gal.	Cents per cwt.*	Cents per gal.	Cents per cwt.*	Cents per gal.	Cents per cwt.	Cents per gal.
Group 1, Kansas City ..	25	1.65	36	2.376	51	3.366	33½	2.211	37	2.442
Group 2, Neodesha	30½	2.013	41	2.706	56	3.696	38½	2.541	42	2.772
Group 4, Wichita	30½	2.013	41	2.706	56	3.696	40½	2.673	44	2.904
Group 3, Tulsa	34	2.244	43	2.838	58	3.828	40½	2.673	44	2.904
No. Texas-Fort Worth..	36½	2.409	45½	3.003	60½	3.993	43	2.838	46½	3.069
El Dorado-Shreveport group, Shreveport ...	37	2.442	46	3.036	61	4.026	40½	2.673	44	2.772

*Includes 1-cent emergency charge scheduled to expire September 30, 1933.

Freight Rate Grouping

Briefly described Group 3 is a freight rate term used to designate a refining territory, the freight rates from which to a large consuming section, are the same from all points. Group 3 as commonly used consists of Oklahoma as shown in the accompanying map. All of the 40 operating refineries in Oklahoma are within this Group 3. These refineries have exactly the same freight rates on gasoline and other refinery products to a consuming territory which comprises practically all of the Middle West. The refineries also have the same freight rates to the Gulf Coast for export and coastwise movement and to many points in the Southeast and West. Developments which resulted in the establishment of this freight rate grouping which are confined to the Mid-Continent territory constitute a long story starting with the first refineries located in Oklahoma. As the Mid-Continent refining industry expanded many rate cases were initiated by both the railroads and the refiners and the present grouping resulted from the several decisions of the Interstate Commerce Commission.

The groups shown in the map constitute the Mid-Continent refining area where 175 refineries are now refining 550,000 bbls. of crude oil daily or approximately one-fourth the total for the entire United States. Group 1 consists of the Kansas City, Mo., and Kansas City, Kans., group of refineries. Group 2 includes Neodesha, Coffeyville, Chanute and other eastern Kansas refining points of origin including Joplin, Mo., where one refinery is located. Group 4 is shown on the map as including west central Kansas where several refineries are located. This designation of Group 4 applies to only a few consuming points. In shipments to a large part of the Middle West this section of Kansas is a part of Group 3.

While not referred to numerically, North Texas refiners constitute another group in tank car shipments. This grouping which has been expanded over the past few years is bounded on the northwest by Amarillo, Borger, Pampa, on the south by Fort Worth and Corsicana and on the east by the East Texas refining group. The El Dorado-Shreveport group includes all of the Arkansas refineries and northwestern Louisiana.

Relation to Price

The freight rates from these groupings to representative points in the Middle West are shown in the accompanying map and table. The same rates apply to kerosene and other products that are classed as refined oils under I.C.C. regulations. The rates on heavy oils (crude oil, fuel oils and gas oils) vary but in general the rates on these oils are 80 per cent of the rates on refined oils.

It is customary except on short hauls for refiners in all these areas to quote their refined oils and in many cases their heavy oils on a Group 3 basis. For

(Continued on Page 12)

Excessive Gasoline Tax a Handicap to Industry in Effort to Effect Recovery Under the Code

By W. T. ZIEGENHAIN

The NRA has used the prices received by the oil industry over the past five years as a basis for tentative market regulation within that industry. During that period the Mid-Continent producer received 44 cents a barrel more for his crude than at present, the refiner received 1¾ cents a gallon more for his gasoline, the average filling station operator in the United States received 1⅝ cents more, but the buying public paid one-fourth cent per gallon less than at present.

For the past five years of depression within the industry the lower prices were not passed on to the consumer but were absorbed by higher state and Federal taxes. By the close of 1933 gasoline will yield a revenue in the form of direct taxes amounting to approximately $850,000,000. Five years ago the same quantity of gasoline used by the public would have yielded but $451,000,000.

Could Pay 500,000 Men

This increase in annual taxes alone would pay the wages of 500,000 men working at $15 a week as outlined in the code and represents about twice the number of men the industry will probably add as the result of adopting the code.

The industry has been provided with a code which, although subject to change before it goes into effect September 2, will no doubt necessitate liberal increases in the number of men employed, pay rolls and less flexibility of action on the part of the individual company as signator. In turn the industry is promised a chance to rid itself of ruinous, unethical competition, a chance to make a fair return on its investment and to enter into the program of general business recovery for the nation. It has shown every evidence that it accepts this opportunity.

But to accomplish these things it will mean that prices must be advanced. More specifically, the consumer is going to pay more for the gasoline he uses over the balance of 1933 than he did as an average over the past five years. Also, if the industry is to receive all that it is entitled to under the code, the increase in prices will have to be a substantial one.

Crude Prices

The code, as signed by the President, provides that 36-36.9 gravity Mid-Continent crude be purchased at a price per barrel at least equal to 18.5 times the per gallon price received by refiners in Oklahoma (Group 3) for their U. S. Motor gasoline of 60-64 octane number. Over the period of 1928 to 1932, inclusive, the nearest comparable grade of gasoline brought .0595 at the refinery which when multiplied by the factor 18.5 gives the arbitrary value for crude as $1.10 per barrel. The actual average shown in the accompanying table is $1.084 per barrel. This calculation was made backwards from that used by those framing the price relationship specified in the code but is included here to show conditions then and to show what is revealed when the same calculations are carried out under present conditions.

At present 60-64 U. S. Motor gasoline is selling for 4¼ cents. This multiplied by 18.5 indicates that under the code, crude would be worth $0.786 per barrel. The present posting is $0.64, or about 15 cents less than suggested by the code. Obviously, a further advance in the posted crude price will have to be made by September 2 if gasoline prices are simply maintained and providing no change is made in the factor of 18.5.

It will be remembered that the President has been granted power to establish the gasoline price at any level during the 90-day trial period starting September 2. Instead of the 4¼ cent gasoline price now existing it is generally believed that a 5 to 5½ cent market will come closer to meeting his aim.

There could be nothing unreasonable nor especially arbitrary in establishing a 5 cent gasoline market within another week. It is within one-half to three-quarters cent of this level at present. It would likewise be reasonable to establish a price for crude of 92½ cents a barrel. This is 17 cents a barrel below the five-year average and not more than needed to cover the bare cost of production in a great majority of the Mid-Continent fields. The security of the higher prices would be assured without trouble if production is curtailed in the field to current requirements. The problem then essentially reduces itself to one of federal control in East Texas.

AVERAGE PRICES OVER PERIOD FROM 1928 TO 1932 INCLUSIVE COMPARED WITH THOSE AT PRESENT. CRUDE AND REFINERY GASOLINE PRICES IN MID-CONTINENT—RETAIL PRICES AVERAGE OF 50 CITIES SCATTERED THROUGHOUT THE UNITED STATES

(Crude price per barrel—gasoline per gallon)

	1928	1929	1930	1931	1932	Average 5 yrs.	At present (Aug. 29)
Crude, 36-36.9 gr.	$1.31	$1.37	$1.23	$.63	$.88	$1.084	$.64
Gasoline at refinery (60-64 O. N. Group 3)	.0795	.0775	.0634	.0345	.0428	.0595	.0425
Net filling station price in United States	.1763	.1791	.1633	.1309	.1330	.1565	.1400*
Gross spread between refinery and retail price	.0968	.1016	.0999	.0964	.0902	.0970	.0975
Taxes	.0297	.0352	.0377	.0395	.0461	.0376	.0564
Cost to consumer	.2060	.2143	.2010	.1704	.1791	.1941	.1964*

*Estimated.

At present the gasoline price is generally believed that a 5 to 5½ cent market will come closer to meeting his aim.

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Refinery Prices

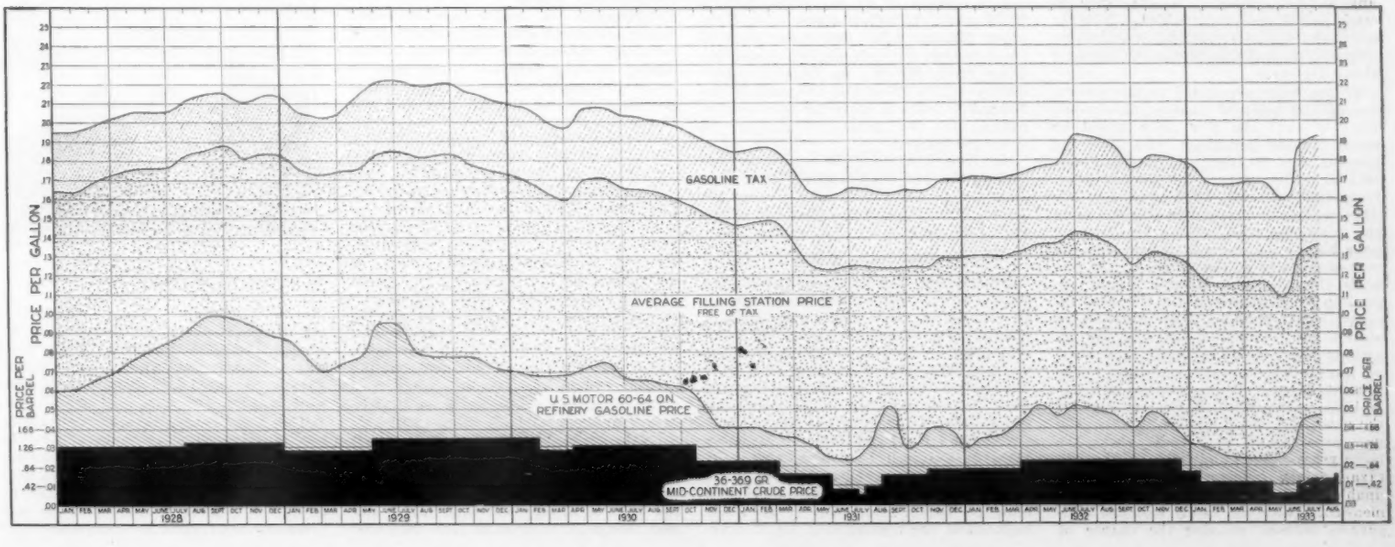
Over the five years from 1928 to 1932, inclusive, the Mid-Continent refiners received an average of 5.95 cents per gallon for their regular grade of gasoline. The year 1931 produced the worst price level in the period and the recovery since this low point has been slower than the decline. Also, it is generally agreed that refinery operations are still unprofitable. Some plants can show an operating margin but the plant that can show a margin large enough to pay a 6 per cent return on the investment, cover depreciation, obsolescence charges and maintain its equipment in a safe condition, is still an exception.

The great bulk of the present refining capacity was built during periods of high equipment costs. The nature of the business requires that the plants operate 24 hours a day or shut down entirely. The runs of the individual plants may be easily curtailed but the expenses cannot be cut in proportion. The average refiner is also the victim of poorly made sales contracts in which he has guaranteed to protect the jobber or retailer under any set of conditions that might come up in his particular marketing territory, all of which may be entirely out of control of the refiner. His position became worse in the past two years because consumption was on the decline and every effort was made to hold gallonage.

Operating under the code, however, the refiner is bound to sell his product at a price that will cover the cost of manufacture. The principal item of expense in routine operation is the crude and next is labor. Labor approximates one-fourth of the total operating expense after the crude is paid for.

Refinery labor has enjoyed a much higher rate of pay than skilled and unskilled workers in practically all other fields. The hours of labor have been long in good years but most plants have since followed the idea of work-sharing and statistics of the Department of Labor show that refinery employes have been much more fortunate than the average of

Five Years of Depression in the Oil Industry Has Left It With Double Tax Burden



all industries throughout the depression.

In the adjustment of wages at plants the total operating expense promises to be increased 2 or 3 cents per barrel of crude processed. This in itself represents a relatively small portion of the total and when reduced to reflect the added cost per gallon of gasoline it is practically lost. However, under the code the refiner will pay more for chemicals, steel, water, electricity, fuel, etc., and collectively the expenses will be appreciably higher. There is a wide diversity of ideas regarding what a reasonable refinery price should be. For the time being the President could set it high enough to revive all refining activities and all would prosper for a short while. If the President takes the more likely course, the industry can only expect a price that will yield a reasonable profit to the well managed plants and the weak ones will be destined for closing down just as under present conditions, except that the day of closing may be a little farther off.

It is fairly well established that the President does not intend to nurse along uneconomical operations and hazard his plan of price regulation.

Filling Station Prices

Filling station prices have shown a reduction over the past five years in about the same proportion as the refinery price. On the surface it appears that this has left the marketer in a better relative position than either the producer or refiner. At present the gross spread or difference between the tax-free filling station price and the refinery price is practically the same as it was during 1928. This means that except for losses in gallonage the jobber has not suffered directly from the adverse conditions within the oil industry. Probably this accounts for the persistence shown in adding filling stations and the practice of outsiders who salvaged a little money from their losses during the depression, and went into the filling station business simply because they "had to do something."

Throughout all this period in question the marketer has been able to buy his gasoline and get it delivered to his plant site for about 10 cents a gallon less than he sold it for.

As sales declined the marketer cut expenses and the chief point of attack was the salaries or wages of the station employes. Every possible method of selling was tried to cut down repeating losses. The penalty of an over-expansion of marketing facilities was particularly felt in those cases where there was a relatively large investment in the station and where it was necessary to provide all of the services the public expects in such a station.

One large marketing company, operating in more than 10 states, finds that it will be necessary to receive approximately $1 a barrel more for its products from the consumer than it is now getting and any further increase in the price of crude would need to be added. To place its stations on a paying basis under the terms of the code, it must raise the price about 3½ cents.

If 3½ cents are added to the present average net price of gasoline at stations (free of tax) the new price would be about $0.1750 per gallon. In 1928 the average was $0.1763 and in 1929 was $0.1791. The average for the five years from 1928 through 1932 was $0.1565. This represents the money received from the consumer with which the marketer pays his station expense, freight and the cost of gasoline at the refinery. On this basis the 3½ cent increase would appear in line. However, the 3½ cent increase would be added to the gross filling station price including tax and the resultant figure would certainly appear out of line to the average consumer. The present average filling station price is $0.1964 cents. With the 3½ cents added the new price would become $0.2294. The new price would be 2 cents above the boom years of 1928 and 1929. So, through taxation, the industry now finds itself unable to effect an advance in price commensurate with the newly assumed obligations without running the chance of severe criticism and inviting further "investigations."

There is ample evidence that all branches are eager to put the spirit and letter of the code into full and immediate operation but it is going to call attention from the masses and the industry might just as well prepare for it and place the blame where it rightfully belongs—on taxes.

Ten Cent Advance in Crude Oil Prices in Most Fields East of California

By JAMES McINTYRE

Most oil fields east of California and west of the Pennsylvania Grade fields were treated to a 10-cent advance in the market price for crude oil in the past week.

The Humble Oil & Refining Co., in taking the initiative, made a statement that in posting its new prices it looked forward with confidence to the balancing of production of crude to consumptive demand under the oil code recently signed by the President. "Undoubtedly," continues the Humble's statement, "this general feeling has been instrumental in bringing about the recent increases in the wholesale prices of products. These increases in product prices, together with the anticipated balancing of production with consumptive demand under the code, warrant the Humble Oil & Refining Co. in advancing its posted prices for crude." The announcement was signed by R. L. Blaffer, president.

The Carter Oil Co. made the first announcement of a crude advance. It announced on August 24 that it would make a general 10-cent advance in its prices in Kansas and Oklahoma on August 25. Shortly after this the Humble company announced its increase, but made it effective at 7 a.m. August 24.

On the following day most of the companies buying crude in the Kansas, Oklahoma, Texas, Louisiana, Arkansas and Lea County, New Mexico, followed suit, and on August 25 and 26 the Ohio Oil Co. and the Stanolind Oil & Gas Co. raised prices a dime in many of the Rocky Mountain pools.

The Ohio Oil Co. also treated the Lima, Princeton, Illinois and Western Kentucky fields to a 10-cent increase on August 25. The Ashland Oil & Transportation Co. raised Somerset, Ky., crude 10 cents.

The Imperial Refining Co. of Canada advanced Petrolia and Oil Springs, Ontario, fields 10 cents on August 25.

Some Purchasers Pay Higher

There were some purchasers who took the dime advance lightly. They thought it was not enough. The Barnsdall Refineries, Inc., buying in Oklahoma and Kansas, started its new schedule, posted on August 25, with 53 cents for oil below 29 gravity, put a price of 55 cents on 29 gravity, and added 2 cents for each degree upward to 40 and above, making it 77 cents. In other words, it saw the other fellows' raise and went them 5 cents better on each degree. Then the Twin State Oil Co., an Oklahoma subsidiary of the Sun Oil Co., raised the Barnsdall prices 5 cents for each degree, making its top grade, 40 gravity, 82 cents per barrel.

In East Texas all the companies excepting the Sun Oil Co. and Panola Pipe Line Co. posted a price of 60 cents per barrel. The Panola and Sun companies posted 75 cents.

New Pools Added

The Greta, Tomball and Livingston Fields in the Texas Gulf Coast are all in the list of fields now being given a posted price. Tomball was given a 75-cent price by the Humble Oil & Refining Co. and Magnolia Petroleum Co.; Livingston was posted at 60 cents by the Shell Petroleum Corp. and Greta was given a 60-cent price by the Texas Co.

The Iowa Field and Cameron Meadows Field in southern Louisiana, posted by the Magnolia and Shell companies, while in the Gulf Coast, were given a price 10 cents per barrel below that of the fields included in the regular Gulf Coast gravity table. The Shell posted the same prices as the Magnolia in Iowa, but in the Black Bayou and White Castle, Louisiana, fields gave them the regular Gulf Coast schedule of prices, ranging from 42 cents for below 20 gravity up to 72 cents for 34 gravity and over.

The 97 Per Cent Tank Table

The advanced price postings of several of the larger companies buying oil in Oklahoma carried the following rider, or something very like it: "These prices are for quantities computed by use of the customary 97 per cent tank tables. If any other basis of computation is used the above prices will be decreased or increased so that the total amount paid will equal the amount which would be due using the 97 per cent tank tables."

These notices may need explanation. On July 31 C. L. Ellis, acting superintendent of the Osage Indian Agency at Pawhuska, Okla., addressed a letter to Osage oil mining lessees and purchasers of oil, calling attention to the order of the Secretary of the Interior that effective August 1, 1933, settlement for royalty payable under the terms of Osage departmental leases is required to be made on basis of 100 per cent capacity tank tables.

Under existing regulations and customs of the superintendent of the Osage and other Indian agencies and of the industry generally, oil purchase division orders in effect throughout Kansas and Oklahoma provide for a 3 per cent deduction of oil received in the pipe line account of base sediment and other noncommercial impurities and other losses sustained by the industry before deliveries can be made to refineries.

Letter to Producers

Following the receipt of Mr. Ellis' letter, the Stanolind Crude Oil Purchasing Co. on August 15 sent a letter to all operators from whose Osage leases the company purchased oil, calling their attention to the order of the Department of the Interior and adding:

"Under the terms of the Osage lease the lessee is responsible for payments of the royalty, and under the order of the Department of the Interior, referred to in the notice of July 31, settlement must be made as therein provided by all purchasers continuing to purchase oil from Osage tribal lands.

"Therefore in order for Stanolind Crude Oil Purchasing Co. to continue to serve its customers in the Osage Nation under existing division orders and in order to comply with the regulation of the Secretary of the Interior and the Osage superintendent, royalty settlements will be made, effective August 1, 1933, on the basis required by such orders, unless notified by you to cease taking oil from your leases. The proceeds of the additional net volume required to be accounted for by reason of making settlement on the basis of 100 per cent capacity tank tables, less impurities as may be determined by the supervisor in charge, and the adjustment to 60° temperature will be charged to the remaining lease interest, to the end that the consideration for the actual amount of oil purchased will conform to the provisions of existing division orders."

Other purchasers decided to handle the case differently and the Carter Oil Co., Sinclair Prairie Oil Marketing Co., Shell Petroleum Corp., Mid-Continent Petroleum Corp. and other buyers announced that their posted prices were made on the basis of 97 per cent tank tables and that if any different tank table measurements are used the prices posted will be decreased or increased in the proportion that such tank table measurements are more or less than 97 per cent.

D. J. Moran's Statement

The Continental Oil Co., which has in the past few months initiated a number of crude price increases, did not join with other large buyers of oil in meeting the Carter Oil Co. and Humble Oil & Refining Co.'s new price schedules, and Daniel J. Moran, president of the Continental Oil Co., in a statement released on August 28, gave his reasons for not so doing. Mr. Moran's statement follows:

"In view of the widespread speculation concerning the position of the Continental Oil Co. with respect to the recent price increase, the following will explain this company's position:

"It is regrettable that the leaders in the last price advance are seemingly of the opinion that a 10-cent increase will alleviate the present demoralization and suffice to meet without evasion of its terms the provisions of the oil code in respect to hours and employment.

"It will be remembered that during the past two years justification was sought by some of the larger crude buyers for their failures to co-operate fully with those more closely in touch with specific ailments in their efforts to improve conditions within the industry.

"If justification of the sufficiency of the 10-cent increase on August 25 can be offered, it will be met by Continental Oil Co. At the moment, however, a close study of the situation existent within this company upon full and honest compliance with the national recovery act indicates that a crude price of 72 cents is not enough.

"This company is making effective all provisions of the oil code and on September 2 it will give consideration to a more adequate price for crude unless it has been fixed by the president prior to that time."

C. E. Reistle to Head Engineers in East Texas

C. E. Reistle, Jr., has secured a year's leave of absence from the U. S. Bureau of

C. E. REISTLE, JR.

Mines, Bartlesville, Okla., where he has served as petroleum engineer for several years, to become chairman of the East Texas Engineering Association with offices at the Shell Petroleum Corp.'s lease near Kilgore, Tex.

The East Texas Engineering Association is composed of 14 of the major companies operating in the East Texas Field and the purpose of the organization is to form a fact finding body to gather information relative to the operation and performance of wells in that field.

Ickes Named Oil Code Administration Head; Secretary Will Supervise Oil Price Fixing

By CHARLES E. KERN
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Aug. 29.—President Roosevelt today appointed Secretary of the Interior Harold Ickes as administrator for the oil industry.

Mr. Ickes will head the planning and co-ordinating committee in administering the code and also will supervise price fixing.

Within the next 24 hours President Roosevelt will name the 15 members of the planning and co-ordinating committee from a list of 50 or more names submitted to Mr. Ickes, who this morning completed his discussions of the oil situation and public works.

Secretary Ickes, who also is public works administrator, departed immediately by plane for Washington to set in motion by September 2 the machinery for carrying out the supervision of the oil industry.

Secretary of Interior Ickes rather definitely indicated that J. A. Moffett would

HAROLD L. ICKES

be one of the three public representatives on the oil board of 15 to handle the oil code. Announcement of appointment of the board is expected to be followed by a call by Secretary Ickes for a meeting immediately.

The board's first consideration will be respecting that provision of the code which authorizes the secretary as administrator of the code to fix the base rate of gasoline.

Memorandum Attacks Code

Publication of a memorandum by Dr. Alexander Sachs, NRA chief economist, and Joseph E. Pogue, economic advisor on oil to Gen. Hugh S. Johnson, NRA administrator, in which price fixing was condemned as "a serious economic blunder," was not intended, Docotr Sachs said. He told press representatives that it was written some weeks ago while the code was still under consideration but that he had shown it to a reporter for information and not for publication.

In view of General Johnson's expressed opposition to price fixing and Secretary Ickes' reported approval of price fixing the publication created quite a commotion.

The memorandum of Doctor Sachs and J. E. Pogue said:

"The proposed code includes a clause which permits the President to fix a minimum price for wholesale gasoline for a test period of 90 days, after which he may continue or change this procedure. This clause, of course, is a form of price fixing and represents a statement of general policy.

"The establishment of a minimum gasoline price and the announcement thereof in the presence of the serious overproduction now obtaining in both the crude oil and gasoline fields will render it particularly difficult to bring about promptly a balanced situation, for, obviously, refiners will continue to overproduce if the profit margin is guaranteed to them. The overproduction of the present production of crude is 2,800,000 bbls. against the consumer demand of 2,300,000 bbls., indicating a current overproduction of 500,000 bbls. a day, a critical weight of oversupply.

"This overproduction has been aggravated during this whole period of discussion, which has tended to thwart the readjustment which otherwise would have taken place. The present price of crude is around 60 cents a barrel, and had the price responded to the overproduction it would have gone down on the basis of historic precedent to 25 cents a barrel.

"Furthermore, this action destroys the sensitivity of the most important single price in the indnstry, namely, spot gasolin , and therefore seriously handicaps the functioning of the control which needs this flexible price for its guidance.

"Another result of this action may be anticipated to be a squeezing out of the small refiner and the small distributor. The large integrated companies manufacture about 80 per cent of the gasoline, while several hundred small plants manufacture the remainder.

"As the gasoline accumulates in the tank of the small refiner, if he is unable to move this commodity by cutting prices he will be forced to evade the order or else be forced out of business. Likewise, the small distributor who purchases gasoline on the spot market will find himself in a squeezed way because of the presence of too much gasoline and the retail price will sink below parity and therefore the small independent dealer purchasing on the open market will be unable to obtain supplies which he will be able to distribute at a profit.

"On the whole the conclusion is inescapable that a serious blunder has been made."

Wirt Franklin's Comment

Commenting on the Sachs-Pogue memorandum Wirt Franklin said:

"It would be interesting to know what was behind a seemingly inspired statement made in the NRA office whereby he charged the whole administration with blundering.

"It is extremely unfortunate that Doctor Sachs should characterize as a serious blunder this portion of a code arrived at only after exhaustive hearings, especially since the President of the United States, in submitting to the industry this code, made a statement announcing that he was not engaged in efforts to select a committee and submit further amendments that would finally affect the code, enabling the oil industry as a whole to compose their differences and work together in one unit for the rebuilding of a great industry."

Mr. Franklin said the oil men had "felt it the part of discretion not to embarrass the administration by untimely public statements" that might hamper the Government's recovery work.

Reports circulated about the NRA that advocates of price fixing waged their battle so they could move at high prices crude oil held in storage were answered by Mr. Franklin and others in this faction by pointing to the code's limitations on oil that may be taken out of storage.

The code limits withdrawals to a total of 100,000 bbls. daily for the country as a whole, as compared with an aggregate of approximately 580,000,000 bbls. in storage. At the code rate, it was explained, it would take about 15 years to remove what is now in storage.

H. F. Sinclair's Statement

H. F. Sinclair, chairman of the Consolidated Oil Corp., in a statement issued at New York, said:

"The origin and purpose of the propaganda that is being circulated against the price regulation of the code is evident to anyone who has had any part in the making of this code. Coupled with this propaganda are the small increases in crude oil prices posted this week by those who oppose what they call price fixing. These are the same forces who up to this time have defeated all recent efforts to establish a living price either

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JAMES A. MOFFETT

for crude or refined products. Those elements in the industry are determined that they, not the President acting under the code, shall be the price fixers. If these elements dominate, we shall have a continuation of the ruinous conditions of the past. It was to cure these conditions that the price control features of the code were formulated, and I have no doubt that these provisions will be strengthened and extended, rather than emasculated.

"Examination of the outgiving on this subject shows the insincerity of the argument against the code. This argument talks of overproduction and asserts that the code will encourage further excess output under the assurance of a higher price. This entirely ignores the fact that even the limited price control provisions are only to be put into effect when the

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Crude Output in Excess of Quotas Will Be Denied to Interstate Shipment

The following is a verbatim excerpt from General Johnson's press conference on the code for the petroleum industry. This transcript was furnished by his office.

Q. General, you certainly pleased the oil men.

A. Is that so? I have not heard from them.

Q. There are 24 sets of objections on file in your office.

A. Are there?

Q. I think everybody thinks it is a pretty good code.

A. It must be, everybody is objecting to it.

Q. General, are you going over to the White House this afternoon?

A. Yes.

Q. General, what is the object of these objections to the code—is it just to relieve their feelings?

A. No. When you put up a thing like that and it has been given all kinds of study—some men worked on it very intensively for several weeks, but even in spite of that you may have made some terrible boners, and if you have, the people who are hardshipped thereby will know it—and I want to give them a chance to express themselves. There should be at least that sort of proofreading to see if there is anything the matter with it. If you went into it you would find that there are just as many boners on one side as on the other. It is purely a question of policy.

Q. General, when will you take this thing to the White House?

A. Sometime this afternoon after I look at all these objections.

Q. Will there be any changes?

A. There may be. If there are mistakes I will change them, but there is one thing I want you to get clearly—this was not a high-handed operation because these people have had every chance in the world to register every point of view there is, first of all in the open hearings, and then because I saw there were some who were not there in a cohesive capacity, I called for representation from the floor, and I asked if there was any group that did not think it was satisfactorily represented, and finally we got down to groups of one man who got representation and they toiled and moiled day in and day out and got substantial agreement on all the provisions of that

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Mass Wildcat Drilling Plan in Wharton County; Eight Simultaneous Tests by One Company

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Aug. 28.—Never in the history of the Gulf Coast, or perhaps in any other district, has such an intensive or mass wildcat drilling development program been undertaken as that under way in the Louise district of southwestern Wharton County. The coast has had its Tomball boom, in which an extensive area in northern Harris and southern Montgomery Counties was played for a proven field long before a drop of oil was found, but even there no drilling activity was started of such magnitude or on such a wholesale basis as that in Wharton County.

The center of this drilling activity is Pure Oil Co.'s 8,000-acre block, which lies just south of the town of Louise on the Jackson County line. There an attempt is being made by the one company to drill eight, and possibly nine, tests simultaneously before the completion of a single well. In addition, on the same block, Smith & McDannald have started still another test on a tract farmed out to them by the Pure Oil Co. Just over the line of this block, on that of the Union Oil Co., Boggs & Hammond are drilling a wildcat. All these tests are within a radius of 2 miles.

East of the Pure block about 2½ miles and within sight of it, and located on what is known as the Leech prospect, Nabers and associates have started a wildcat on the Lurker tract on H. C. Cockburn's block. That test formerly was drilled to a total depth of 5,026 feet by Steed Production Co. and now is to be deepened. Less than 10 miles northeast, Smith & McDannald and Shell Petroleum Corp. still are drilling in their second deep test on their Lakeview prospect.

Most Wildcatted County

Altogether this makes a total of 11 wildcats in southwestern Wharton County. All but two of these are actually active and those two are to be started in the near future. In addition, the entire southern part of the county, and most of the rest of the county, has been placed under lease with the various blocks joining each other. The majority of these blocks call for drilling within the near future, which will make Wharton the most wildcatted county on the Gulf Coast.

The project started on the Pure Oil Co. block, however, probably is one of the most unusual that ever has been undertaken, and calls to mind the one initiated by the Texas Co. in 1928 and 1929 of developing simultaneously seven different salt dome prospects in the coastal marshes of southern Terrebonne Parish, Louisiana. While that was a much bigger development program considering the extent, nature and cost of operations, yet it called for the drilling of only one test at a time on each of the seven domes, which possibly leaves the Pure's Louise program as the biggest development program ever started by any one company on any single wildcat prospect.

The drilling by Pure Oil Co. of so many wildcats on a single block simultaneously has been occasioned by lease obligations all about to expire at the same time. The acreage was taken in 1928 on a five-year basis, and, although the prospect has been looked upon with favor, general conditions in the oil industry since then have caused the company to delay drilling until the present time. There were quite a few additional lease expirations coming up besides those on which drilling now is being started, but the majority of those were around the outer part of the block and satisfactory arrangements were made to extend them a short time pending the completion of the present drilling program.

Had Several Showings

Pure Oil Co.'s first test on the block, located on the Stewart tract in the Morris & Cummings Survey, Section 25, was started last December and still is drilling. This wildcat has encountered a number of sands and has had quite a few showings. In one sand in the Frio a drill stem test was made at 5,963-71 feet in which 17 fourbles of 38 gravity oil was recovered in 20 minutes. The operators feel fairly certain that some kind of a well could have been completed at that depth but in view of the numerous lease obligations about to expire it was decided to carry the hole down as an exploratory test of possible lower horizons, the operators expecting to plug back to that sand if nothing better is found.

Since then the hole has been deepened to a total depth of 8,015 feet and other sands have been found in which drill-stem tests have been attempted. Most of those tests, however, failed to give any conclusive indications of the possibilities of the respective sands tested. At the depth of 8,015 feet, drill stem twisted off so after a string of 9⅝-inch casing was run and cemented at 5,961 feet to protect the upper walls, which were caving some, the old hole was sidetracked at 6,505 feet and new hole now is being drilled below 7,355 feet. It is the intention of operators to go at least to 9,000 feet if possible.

Although very little can be told as to what can be expected from this well in the way of opening production and a new field, the showings encountered have been indicative of the existence of something in that area. In view of this the company could not afford to let the adjoining leases expire, and as other companies had been offering landowners from $50 to $100 an acre for this acreage, it preferred the active drilling program rather than attempting to renew those leases at the above prices.

It has always been the practice, and, it is more to be desired, for companies on controlled prospects to conduct their exploration by consecutive rather than simultaneous tests. In that way the location of each test can be governed by the

—Courtesy of Logan Map Co., Inc., Fort Worth, Tex.

Map showing most active area in Wharton County

The higher crude goes the more you save by not skimming it

Skimming makes straight-run gasoline and you can't make anything on it —it knocks

Skimming makes fuel oil, too, and there's too much fuel oil already—you're lucky if you can sell it at all

Dubbs cracking is the way to make gasoline—from fuel oil or any charging stock—volatile, anti-knock gasoline that holds old customers and makes new ones

Dubbscracking makes the biggest yield of the best gasoline from any charging stock at lowest cost—royalty and all

Universal Oil Products Co
Chicago Illinois U S A

Dubbs Cracking Process
Owner and Licensor

information revealed in preceding tests. In the Louise development the Pure Oil Co. has nothing to guide it in making all its locations at once except the information from the one well on the Stewart tract, its geophysical picture and the surface geology, and consequently the venture will be watched with considerable interest. If all the wells are productive the company will have a ready-made field all at once.

Little Information Available

The Stewart well topped the Catahoula at 3,626 feet, the Discorbis (upper portion of the Marine Oligocene) at 4,593 feet, and the Frio at 5,030 feet. There is very little information available with which these tops can be correlated, but they generally are accepted as being at least above normal. However, there would be little to determine from this information which way the structure lays, if a structure exists.

Soon after the showings were encountered in the 6,000-foot sand in the Stewart well, location was made for a second test, No. 1 Kountze, approximately a mile southeast in the Morris & Cummings Survey, Section 27. This test was reported to have run about regular with the Stewart well so far as could be determined. It encountered a sand in the Frio in which a drill-tem test was made at 6,005-12 feet showing salt water. However, over a distance of a mile it can not be determined at this time whether this sand is the same as the one tested at 5,963-71 feet in the Stewart well and which showed for an oil producer.

The other tests being started include one on the Lancaster tract in the Morris & Cummings Survey, Section 23, about three-quarters of a mile northwest of the Stewart test; one on the Wilder 160 acres in the T. W. Heard Survey, Section 28, a mile south of the Stewart test; another on the Walter Garrett 320 acres in the same section, just south of the Wilder test, and one on the Isaac Weaver tract in the J. M. Brownson Survey, Section 22, a little less than a mile southwest of the Stewart. Locations of two other tests to be started shortly have not been definitely made.

The Smith & McDannald test, which is being drilled on Pure's block on a tract farmed out to those operators, is a couple of miles southwest of the Stewart test in the B. M. Yeamans Survey. The Boggs & Hammond wildcat, which is now being drilled on the Union Oil Co. of Nevada's block adjoining the Pure block to the south, is located on the Kountze tract in the Morris & Cummings Survey, Section 17. It is about a mile farther south from the Smith & McDannald test.

In the development of Louise, most of the work is being done by contract. A Pure Oil Co. crew is drilling the Stewart well, but the other tests are being let out to various contractors.

One of "Hottest" Areas

Wharton County, particularly the southern half, for the past year has been one of the "hottest" areas on the Gulf Coast. From a spectacular nature, it was exceeded by Tomball, where acreage and royalty prices were run up to unheard of figures for wildcat territory, but active leasing and trading has kept up continuously. Although a number of the larger companies have held large blocks for several years, additional blocks have been taken, many of them joining each other or have been filled in between by independents. Within the past year a half dozen deep wildcat tests have been drilled on various good geophysical blocks, the results of which have indicated the existence of two new fields, Louise district for one, and Shell Petroleum Corp.'s Lakeview prospect for the other. On the latter a wildcat drilled by Smith & McDannald on the Mitchell tract in the H.&T.C. Survey, Section 8, north of El Campo, encountered several gas sands, in at least two of which drill-stem tests indicated a well could have been completed. That test was drilled to a total depth of 6,875 feet, where because of a small hole and heaving shale difficulties it was plugged to 3,250 feet, where it has been abandoned temporarily.

Into Jackson County

The activity also has spread westward into Jackson County, where along the Wharton County line several large blocks are being held by major companies. Extensive geophysical work also has been done throughout southern Wharton County and eastern Jackson County, the results of which have indicated the existence of a number of different "highs," or possibly a single elongated anticlinal condition with local high spots.

In the Louise district, Pure Oil Co. has done perhaps more work than has been done in any of the other areas of the country, checking it and rechecking it with torsion balance, seismograph, reflection shooting and profiles. Indication of some irregularity also is given in the surface geology. Just what the area is naturally cannot be determined at this time but probably much will be learned within the next 30 days with so many wildcats going down in such a comparatively small district. It is possible that it is a salt dome, but if so the dome would be expected to be very deeply seated. Some geologists have expressed the theory that there is a deeply seated salt ridge running east and west through the county and extending westward into Jackson County on which are located Louise, H. C. Cockburn's Leech prospect, just east of the Pure's Louise block; Ganado, in eastern Jackson County, and possibly several other areas in southern Wharton County where highs have been indicated and blocks taken.

The Louise and Leech prospects are so close together that there is considerable speculation as to whether or not there is any definite connection between them. The owners of the Leech area are playing it for a twin salt dome with Louise. On the other hand, it is possible there may be two entirely separate conditions or possibly one large dome or structure with local highs. A number of different companies are interested directly in the Leech prospect, where not only the Cockburn Oil Corp. and its associates, but also the Texas Co., Gulf Production Co., Shell Petroleum Corp. and others have sizable acreage holdings.

Well-Defined Ridge

Of particular interest in connection with the surface of the district is a well-defined ridge which runs through there east and west, beginning in Jackson County to the west. What bearing this rectly on this ridge as are several other mains to be seen. It is believed by many that this surface ridge marks a subsurface structural condition of some kind. Louise and Leech are both located directly on this rige as are several other prospective blocks and areas. The ridge follows through Ganada in Jackson County, where Turnbull and associates recently abandoned a deep test as dry at 6,039 feet. The latter test, however, was located considerably north of the ridge.

The surface of southwestern Wharton County normally is Beaumont clay. However, at Louise the surface consists of sand deposits surrounded by Beaumont clay. This is the same condition which marks Greta, McFaddin, Refugio, Keeran and other fields of Refugio and Victoria County in the lower Gulf Coast country. In view of this it is possible that Louise and the other prospects in southwestern Wharton and in Jackson County belong to that same trend of play, possibly being the upper end of it. The sand deposits characteristic of the surface of these fields are generally believed to be of Lizzie age, which would indicate the fields as being Lizzie inliers. It is possible, though, that the sand is not Lizzie but of recent river deposition or possibly a Beaumont sand, but whatever it is it seems characteristic of that trend of fields.

Whether Louise and this area belongs to the Refugio-Keeran trend of fields is open to speculation, as geologically western Wharton County is virgin territory and most anything can happen. It is in a sort of transitory district between the Gulf Coast salt dome district and the lower Gulf Coast country. In view of this, the structural conditions might be typical of either the salt dome district or the lower coastal field, or marking a change geologically it might be a combination of both.

Government Use of Group 3 Follows Industrial Practice

(Continued from Page 6)

example, assume that the present price on 60-64 octane U. S. Motor gasoline is 4½ cents in Oklahoma (Group 3) and a refiner in Group 1 quotes a jobber at Fargo, S. Dak., on this basis. The rail rate on gasoline from Group 3 to Fargo is 3.828 cents per gallon as shown in the table. The rate from Group 1 is 3.366 cents per gallon, or .462 cent per gallon less than the Group 3 rate. The refiner in Group 1 would absorb this freight rate advantage so that the price for gasoline actually obtained at his refinery would be the 4.5 cents (Group 3 price) plus the .462 cent freight rate advantage, or 4.962 cents per gallon f.o.b. his plant. On the other hand, the rate from the North Texas group of refineries to Fargo is 3.993 cents per gallon (see table), or .165 cent per gallon more than the Group 3 rate. This means that the net back to a North Texas refiner selling to a Fargo jobber would be 4.5 cents minus .165 cent or 4.335 cents. Thus in selling in direct competition with all other Mid-Continent refining groups, individual refiners endeavor to ship their products to points where they have an advantage rather than a disadvantage in selling in competition with the Oklahoma (Group 3) refiners.

Nationwide Market

This competitive condition which determines the Group 3 market through daily transactions of buyers and sellers, is not confined to Oklahoma. In effect it covers the entire United States with the possible exception of shipments along the West Coast states and certain foreign points where the transportation advantage of California refineries is so great that the competition of Group 3 refiners is not a direct factor. However, it is worthy of note that even in the case of West Coast states, gasoline from East Texas refineries during the past few months was shipped to the Gulf Coast by rail and then by water to the West Coast and sold in the State of Washington. In making this sale via the Gulf Coast, East Texas refiners come in direct competition with Group 3 refiners. The East Texas refiners have a freight rate advantage of approximately one-fourth cent per gallon in shipments to the coast and for that reason have been able to secure the bulk of this type business over the past year.

The market of the large refineries scattered throughout the Middle West and connected to the Mid-Continent by crude oil pipe lines is directly competitive with Group 3. In general these refiners endeavor to absorb in the net price at their refinery, whatever advantage they have in freight rates when competing with Group 3 and other Mid-Continent refiners. This enables them to offset the cost of transporting crude oil by pipe line from the Mid-Continent to their refineries and also reflects the transportation advantage in shipping by pipe line rather than tank car. An example of this condition can be shown by taking Milwaukee as the consuming point. The freight rate per gallon on gasoline from Group 3 to Milwaukee is 2.673 cents; from Whiting, Ind., (Chicago group of refineries), .759 cent per gallon; and from Wood River, Ill., (St. Louis group of refineries), 1.711 cents per gallon. Taking the base price of 4.5 cents per gallon Group 3 refineries and the net back to a Chicago refinery in shipments to Milwaukee would be 6.414 cents per gallon and in the case of Wood River refineries, 5.462 cents per gallon.

This same competitive situation could be explained along similar lines for the entire country. There are sections far distant from Oklahoma (Group 3) where the products of the state's refineries are not sold. But in these areas sellers have to take into consideration the overlapping competition of refining areas which when traced to their basic condition is checked back to the Group 3 market. This situation was clearly shown several months ago when major distributors along the Atlantic Seaboard announced that they would use the Gulf Coast coastwise market in determining the tank car, tank wagon and service station prices for gasoline throughout that large consuming territory. Practically no Oklahoma gasoline is now sold in that territory but due to its direct competition in the Gulf Coast market, it is apparent that the eastern refiners and distributors are in effect recognizing the Group 3 market as a base price. Similarly the market for the entire state of Ohio is now determined by starting with the Group 3 tank car price on gasoline and adding a fixed transportation cost. The tank car, tank wagon, and service station prices as established by the major distributors in other Middle Western states are based on this same market structure.

Some outsiders have claimed that this relative price situation between areas has been brought about by manipulation and is unfair to consumers. Actually, it is a normal market development which has its duplicate in the production of raw material, manufacturing operations and merchandizing of every other major industry. Fundamentally it reflects the fact that at this time three states—Texas, Oklahoma and California—are producing 85 per cent of the crude oil output in this country and this comparative situation has existed for several years. The differences in markets of the industry reflect the differences in transportation costs in getting the crude oil from these three basic states to consumers of finished products throughout the United States. Because it is the farthest removed from its final markets Oklahoma (Group 3) became the base market in the sale of finished products and the Government is now recognizing this fact and making its markets the basis for its price control plan.

The question often asked during the past few days is concerned with the probable price levels that will be established for crude oil and gasoline outside Group 3 and the Mid-Continent. At this writing the base price to be established for Group 3 is not known and the government's position in regard to prices for other areas has not been announced. In view of the official recognition given the Mid-Continent in the code it seems reasonable to conclude that NRA officials in determining all prices which they will attempt to establish and control, will be governed by the average price relationship that has existed between producing and refining areas over a period of time with Group 3 and the Mid-Continent used as the base market.

PROGRESS OF NAPHTHOLOGY

The Institution of Petroleum Technologists, London, England, has prepared in reprint form a series of articles dealing with petroleum and its products, commencing with geology and tracing through each succeeding step in the industry to utilization and statistics. The book is divided into three main divisions, geology and geophysics, field technology and refining.

The book is an annual feature of the Institution of Petroleum Technologists and is made up of a series of short reports covering all phases of the industry. These reports have been prepared by technicians recognized as authorities on the particular subject they have handled and in this way a great deal of pertinent information has been condensed into a relatively small space.

The book contains 250 pages of which 20 pages are devoted to geology and geophysics, 48 to field technology edited by B. J. Ellis, and the balance of the book to refining reports edited by W. J. Wilson. Many references to original articles are given in the footnotes. The book may be obtained by addressing the Secretary of Institution of Petroleum Technologists, Aldine House, Bedford Street, Strand, London, W. C. 2, England. The price is 10s. 6d.

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(Continued from Page 9)

production of crude oil is within the quotas recommended by the Federal agency set up by the Government.

"The concern expressed over the fate of the small refiner and distributor under price regulation is entirely misplaced. Those smaller units have had their prices fixed at starvation levels by the group of major companies that now insist upon a continuation of this prerogative. The independents are equally determined that this shall be ended. They so expressed themselves in no uncertain terms during the meetings in Chicago and Washington. They know, as I do, that their extermination would be the result, if not the deliberate purpose, of eliminating the price control from the code. I believe the administration can be depended upon to deal with this question fairly and wisely."

In its company publication, The Lamp, the Standard Oil Co. (New Jersey) states that the oil code, which in effect was a compromise of divergent views, is a generally acceptable initial working program, with the important exception of price fixing. The company, which has been an outstanding opponent of price fixing, declares that any attempt to maintain a price higher than is warranted under current conditions of supply and demand and other economic factors is unsound and is bound to collapse of its own weight. Eventually, the company adds, it will cost much more than any possible temporary benefit is worth.

The Government's program, if it is to succeed, The Lamp says, is going to require a degree of co-operation and attention to economics which the industry found beyond its capacity when going it alone. Pointing out that only one-third of the country's crude oil actually moves at posted prices, the company says:

"The direct benefit of improved crude prices if they are obtained will be confined to a comparatively small section of the industry. And since posted prices in the field under the code are determined by use of a fixed multiple (18.5) of the Group 3 gasoline price for 60-64 octane motor fuel, it seems evident that excess gasoline stocks, tax evasion and other evils in the marketing branch which have played a large part in cutting prices down to their present unprofitable levels will have to be eradicated before we can see much improvement. * * *

Burden of Stocks

"Prices may be improved artificially under the oil code for a time, but the industry today is burdened with excess stocks which will seek to find an outlet at any price. Withdrawals from storage will be limited under the plan to 100,000 barrels daily. The pressure of this huge oversupply is tremendous and until it is relieved we will find the normal law of supply and demand working at cross purposes with any atfempt to improve prices by proclamation."

The article in The Lamp says:

"In common with a large section of the industry, Standard Oil Co. (New Jersey) consistently opposed price fixing as unnecessary in principle and as proven impracticable by all experience. It believes that the price provisions of the code will by themselves be ineffectual in accomplishing the purpose for which they are intended; if the sections relating to curtailment of production to consumer demand are enforced, price regulation of any kind should be superfluous.

"It seems clear that if the four principal producing states, in only one of which the requested reduction in present output is of serious moment, can hold their contribution to the national supply to the quantities which will be fixed by the administrating agency, the petroleum industry should emerge from its depression.

"However individuals or groups may differ on the various questions involved, this is a time for co-operation. This company has advised the recovery administration that it accepts the situation created by the promulgation of the code and has pledged its wholehearted support to make the operation of the plan a success.

"It is pointed out that without actually fixing a price for crude oil, the code sets up a ratio under which the wholesale quotation for gasoline at point of origin, presumably subject to unimpeded market influence, determines the price of the crude. A producing state is not to enjoy this protection until it brings its production within the amount allocated as its share of the nation's supply. Neither oil faction was willing to accept this middle course, yet both agreed to work under the code as promulgated by the President.

Price Fixing Feared

"The dangers of price fixing are easy to understand because every major attempt at artificial control of prices over any appreciable period of time has been a pronounced failure. The device is anathema to traditional American policy, for when Government begins to fix prices it is leaving the field of private property and entering the realm of Socialism. The oil code as it now stands does not go all the way in this direction. But it does freeze at least one factor in price relationship—the ratio between crude and gasoline quotations.

"The regulation of prices by natural forces, reflecting the changing relationship between production and consumption, needs no watching; but the arbitrarily named prices, which would extend from raw material to cover all products down to the point of actual consumption, would call for constant surveillance at every point where there is a gathering tank, a still, a bulk station, or a lone gasoline pump, and if for one line of business, then for others and finally for all industry. The United States has not provided and cannot provide policing on any such scale for the oil business or for any other industry. Even if it could it would not be sanctioned by public opinion. Any attempt to maintain a price higher than is warranted under current conditions of supply and demand and other economic factors is unsound and is bound to collapse of its own weight. Eventually it will cost much more than any possible temporary benefit is worth."

Tight Rules in Oklahoma City Field to Prevent Marketing of Illegal Oil

By JAMES McINTYRE

The Oklahoma state law, the Division of Investigation of the U. S. Department of the Interior and the Oklahoma Corporation Commission, combined, have surrounded the Oklahoma City Field with so many antihot oil restrictions that it will be very difficult, if not impossible, for the illegal producer, the illegal buyer and the illegal shipper of oil to put anything over on the Federal or state government.

Every move made from the tender of oil by the producer to the receipt of it by the refiner, is bound around with sworn statements and woe be to the man who is caught swearing falsely, for all concerned are warned solemnly that perjury carries with it a penalty of not more than $2,000 fine and not more than five years in prison, with the additional warning that not only can the Federal Government get the guilty party but that prosecution for false statements in these affidavits can be had also in the Oklahoma state courts under House Bill No. 481.

A. D. Ryan, special agent in charge of the Division of Investigations of the U. S. Department of the Interior, has issued a general letter to producers, buyers, shippers, and refiners, with instructions concerning the use of affidavits as follows:

Everybody Hedged In

Affidavit No. 1 covers all spot oil on the lease sold during a current month. It will generally be used by those shippers purchasing and shipping oil by tank car or motor vehicle, or by refiners purchasing spot oil on the lease, even if movement is by pipe line or gathering system.

All carriers transporting spot oil, purchased on the lease, must secure an affidavit executed in conformance with Affidavit No. 1.

Affidavit No. 2 is to be used in the case of oil shipped by pipe line, or gathering syatem, from the lease and run to common storage or into a main trunk line. It is a forecast of production by the producer of expected takings by known shipper and agreed to by the pipe line by whom the oil is expected to be carried from the lease. This forecast must be signed by all three parties and approved by the umpire. In effect, it is a promise for the producer not to produce, the taker not to take and the transporter not to transport more than the net allowable set by the Corporation Commission for a forthcoming calendar month. So long as the original shipper retains his interest in the oil, connecting pipe line may take from connecting pipe line, or gathering system, upon receiving evidence that the original forecast was filled out and agreed to by the first carrier from the lease.

Affidavit No. 3. If the original shipper transfers his interest in the oil (as in case where oil is sold from common storage) then the transferee must fill out Affidavit No. 3, duly approved by the umpire's office of the Corporation Commission, and tender this affidavit to the subsequent carrier for his protection. This affidavit makes reference to the original forecast under which the oil was originally shipped and furnishes the subsequent carrier with a clearance for the oil.

Refiners affidavit is to be used in reporting all shipments of refined products from refineries located in a radius

Affidavits in Triplicate

Three copies of Affidavit No. 1 must be delivered to the carrier transporting the crude. The carrier shall fill in the blank at the bottom of the affidavit and forward two copies to the Corporation Commission, one of which will be delivered to the Division of Investigations of the Department of the Interior.

Three copies of Affidavit No. 2 must be delivered to the pipe line company to which the properties are connected, the pipe line company executing its portion of the form and forwarding the other two copies to the Corporation Commission, one of which will be delivered to the Division of Investigations of the Department of the Interior.

Three copies of Affidavit No. 3 must be delivered to the pipe line, railroad or truck line, two copies of which will be completed by that carrier and forwarded to the Corporation Commission, one of which will be delivered to the Division of Investigations of the Department of the Interior.

Two copies of the refiner's affidavit must be delivered to the railroad or truck company, who will fill out the transportation portion thereof and forward one copy to the Corporation Commission, who will maintain a file for account of Division of Investigations of the Department of the Interior.

The foregoing instructions presume that shippers will prepare one or more additional copies of these forms for his own use which must be maintained in his own files and instructions herein contained are only for copies which he will pass on.

Penalty for Perjury

Section 125, United States Penal Code—Whoever, having taken an oath before a competent tribunal officer, or person, in any case in which a law of the United States authorizes an oath to be administered, that he will testify, declare, depose, or certify truly, or that any written testimony, declaration, deposition, or certificate by him subscribed, is true, shall wilfully and contrary to such oath state or subscribe any material matter which he does not believe to be true, is guilty of perjury, and shall be fined not more than $2,000 and imprisoned not more than five years.

Prosecution for false statement made in these affidavits can be had also in the Oklahoma State Courts under House Bill No. 481.

The information in these affidavits is checked by a daily and monthly report from all producers, shippers and transporters.

Oklahoma-Kansas Code Is Adopted by Drillers

Drilling contractors of Oklahoma and Kansas adopted, subject to approval by Gen. Hugh S. Johnson, national recovery administrator, and Secretary of the Interior Ickes, a code of fair practices under the National Recovery Act.

The Oklahoma-Kansas Drilling Contractors association code is designed to bring about the employment of approximately 75 per cent more men, increase wages, shorten hours in some instances more than one-third and to eliminate cutthroat competition.

Principal provisions of the new code were given as follows:

Contractors are barred from accepting gasoline coupon books from contracting oil companies in excess of the actual amount needed for use at the well.

Underbidding is prohibited. Contractors are barred from offering the use of equipment free or of offering other supplies free for use in drilling in order to gain the contract.

Labor shifts on all drilling wells have been reduced from 12 hours to three shifts of eight hours. Employes may be worked 56 hours during continuous weeks to the completion of a well.

Men working with equipment used to drill or capable of being used to drill deeper than 2,500 feet are placed in class A. In this group rotary drillers will receive $9 for an eight-hour day. Rotary helpers will receive $4.50 for each eight-hour day.

Cable tool drillers will receive $8 per eight-hour day while tool dressers will receive $7.

Other labor is consigned to class B. In this classification rotary drillers will receive $6 per eight-hour day and helpers $4 per day. Cable tool drillers will receive $6 and tool dressers will receive $5 per day.

A provision forbids a company or contractor from making bids below a "fair price" for the work to be done.

The code provides that Kansas and Oklahoma shall be zoned into districts where similar drilling conditions are encountered and a rate of cost shall be set for each district. This work shall be done by the drilling committee of the association, and is subject to reappraisal from time to time to meet changing economic conditions.

NEW BIGHORN UNIT

CASPER, Wyo., Aug. 28.—Bighorn Oil & Refining Corp. has started running crude through its recently installed three-tower reforming still at its Billings, Mont., refinery. The new cracking unit has trebled the throughput capacity and the plant is now able to handle 1,500 bbls. of crude daily. Paul Stock, president of the Big Horn Refining Co., announced that installation of the new unit, which has been under construction since April, will be the means of a 70 per cent boost in his pay roll. Cost of the cracking unit approximates $30,000.

Barrett

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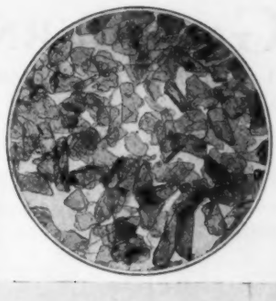

Reproduction of the photomicrograph at left shows the interlocking of the flakes of the internal reinforcement used by Barrett. By laminating with the waterproofing agent the flakes give Barrett Pipe Line Enamels unusual toughness and resistance to soil stresses.

For pipe of large diameter, The Barrett Company will furnish equipment required to revolve pipe and spread enamel.

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Why Pick on Gasoline?

One of the sensational newspaper columnists alarms his readers with a warning the oil code will cost every automobile owner money.

Why pick on gasoline? How about shoes, groceries, dry goods, drugs and tires? Tire manufacturers, indeed, advertise that in addition to their own code, their costs have been increased by the cotton processing tax.

Everybody by this time surely understands that increased employment cannot be maintained unless increased prices provide the money.

So, of course, increased employment in the oil industry under its code must mean increased prices for gasoline, the same as for anything else.

Under the NRA code practically everything is going to cost the buyer more but if it carries the country out of the depression he will be able to pay it and still be better off than when everything was dirt cheap and he had no money to buy with.

Nevertheless the oil business is probably going to hear a lot about gasoline prices unless it gets the facts before the public.

First as to labor conditions. The oil industry has been notably free from labor controversies. It has maintained exceptional relationships with its employes. During the depression oil companies have striven to spread work and provide part time employment.

So far, then, as the prime purpose of the NRA is concerned, increasing opportunity for work, the oil industry consistently welcomes the President's effort and assures him the fullest co-operation.

This pledge has been made despite the fact that, outside the labor clauses which have been accepted in full, there are sections of the code which are not wholly approved.

The greater employment to be provided by the industry cannot be paid for by prices for oil and its products which have resulted in losses rather than profit.

In addition to the increase in labor costs under the code the oil industry will find its costs increased for maintenance and replacement by the codes in the steel and chemical and other industries, which supply its requirements.

This, of course, will be true of all industries. The actual increase in labor costs in their own industry will not be all; the increase in labor costs in industries from which they buy will also have to be met.

In fact, it is this pyramiding of costs, reflecting purchasing power, which is relied upon to bring back prosperity. It is this indissoluble union of interests, accumulative as it spreads, which commands the co-operation of every citizen.

If the oil industry is to be enabled to do its part it must obtain a price for its products which will meet these additional charges and provide a living return on its operations.

Two essentials stand out. There can be no hope of maintaining better prices so long as production exceeds consumption. This means actual reduction of output and it is sheer folly to expect that someone else is going to take all the burden.

Nothing less than universal action towards the same end is going to be effective. If it is not done voluntarily the NRA administration will find means to enforce it.

Evasive and obstructive tactics may momentarily delay but cannot ultimately defeat the purpose.

Strict curtailment to demand will strengthen the price structure. The public need not fear, with the government in control and the potential supply so large, that there will be any runaway market.

But prices must be improved. The oil industry has been operating at starvation prices. It could not make ends meet even without the extra costs resulting from the new code.

Its present condition is illustrated by a few figures. The price of crude on August 28 was 64 cents a barrel against an average of $1.08 over the past five years. The refinery price of gasoline was 4.25 cents a gallon against an average of 5.95 cents.

The average price of gasoline at filling stations in 50 representative cities is 14 cents a gallon, exclusive of tax, against a five-year average of 15.65 cents.

The spread or difference between the price at the refinery and at the filling station remained approximately the same, so that the loss was sustained wholly in the production of oil and in the refining operation.

But during the same period the tax on gasoline was increased from 3.76 cents a gallon to 5.64 cents a gallon, so that the motorist was paying an average of 19.64 cents a gallon on August 28 compared with 19.41 cents on the five years average.

The producer of crude oil and the refiner are getting less, the marketing spread is about the same, but the tax collector more than makes up the difference.

Today, if the industry were to go back to the five-year average crude price and the five-year average refinery gasoline price the increase in gasoline tax would make the cost to the motorist 21.29 cents per gallon.

Yet, those five-year average prices for crude and gasoline would represent five years of unsatisfactory operation and would take no account of the increased labor and supply costs resulting from the new codes.

These are the five years taken by the code as a basis for the price fixing theory now before the President But they cannot be more than a base on which to build since they make no provision for meeting the new charges set up by the operation of the code itself.

The automobile owner instead of resenting the oil industry's claim to equal recovery with other industries and business should put the responsibility where it belongs—on the men he sends to the legislature and to Congress who have saddled this increased taxation upon him.

He has not felt it in the past because the oil business was so poorly managed that it allowed overproduction and the resulting competition to cut prices below cost, selling gasoline so cheap that it offset the added taxes.

But that joyride could not last forever. The oil industry must pay its way or it cannot maintain the supply of gasoline. The depression has shown us that there is a limit to cheapness—bankruptcy and unemployment.

The recovery act is to show us the road back to sound business—profit and employment.

5 ESSENTIALS

IN THE ECONOMICAL AND EFFICIENT CONSTRUCTION AND OPERATION OF GAS LINES

HERE are modern Couplings, Clamps, and Sleeves that appeal to the practical gas man. Simple in design . . . they are the development of the world's largest and oldest builder. Easily and quickly installed, they save considerable time and expense in the construction, extension, replacement and repair of gas lines and mains. Flexibility and permanent tightness are attested by nearly half a century of performance records. Write for prices.

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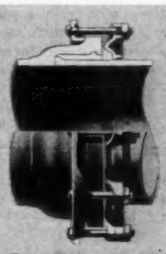
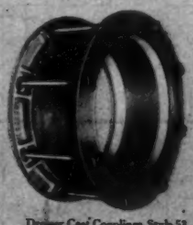
Dresser Cast Split Sleeves, Style 26, will enclose and permanently repair broken bell-and-spigot joints. Rubber side-and-end gaskets, specially designed and compounded, simplify the installation and insure permanence.

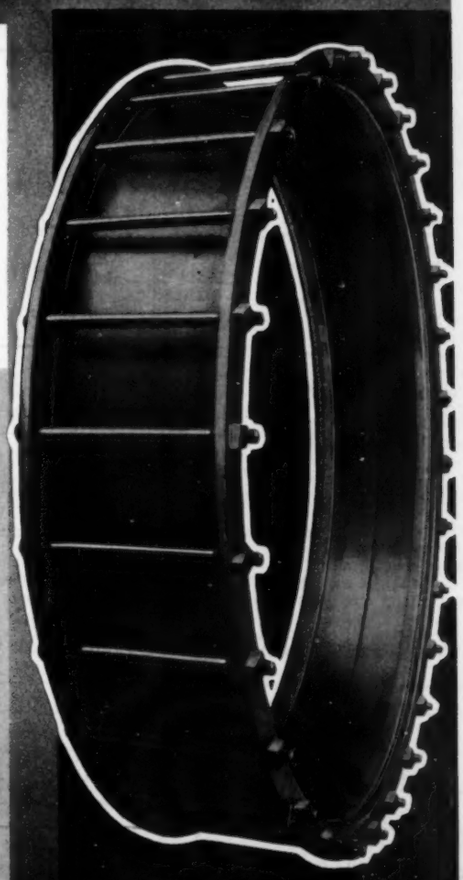


Dresser Bell Joint Clamps, Style 4½-H.P., offer an effective and permanent means of repair for all bell-and-spigot joints.

Dresser rubber-gasked Split Sleeves, Style 57, will enclose and permanently repair leaks, breaks and splits in the straight section of cast-iron pipe. Single-unit Sleeve has an inside clearance of 8⅛" between end gaskets. Two or more units may be joined together.



Dresser Cast Couplings, Style 53, can be furnished for A.G.A. cast-iron pipe up to and including 30-inch. (For larger sizes, Style 38 Steel Couplings are used.)



Dresser Steel Couplings, Style 38, are standard for all kinds and sizes of plain-end pipe: steel, cast-iron, etc., from 2⅜-inch to the largest pipe produced.

DRESSERS!

Advances in Oklahoma Markets Include Motor Fuels, Kerosene, Distillate and Gas Oil

By C. O. WILLSON

Price trends in the Oklahoma (Group 3) market over the past week continued upward. In the case of gasoline, the price strength continues to be due to the expectation that price levels will be substantially higher starting early in September because of the workings of the oil industry's NRA code which is scheduled to become effective September 2. Sellers are restricting their offerings and although spot trading is not active no important weak spots were apparent in the Mid-Continent the first of the week. The one-half cent advance in gasoline tank wagon and service station prices throughout the Standard of Indiana territory last week added one-half cent to the refinery returns on jobber contracts. The benefits so far as most refiners were concerned were offset with a 10-cent increase in the posted crude prices made effective by a majority of the buyers.

There were numerous inquiries in the market on Monday and Tuesday for all grades of distillates. This interest on the part of the buyers appeared to be largely based on a need for material and was independent of the expected higher prices with the adoption of the code. The distillate burning season starts September 1. Some buyers have stayed out of the market in expectation of the lower prices and are now faced with the necessity of covering their immediate requirements with few refiners having spot material which they are willing to sell at this time. Kerosene also was stronger and prices on kerosene, distillate and gas oils were one-eighth cent higher than last week. Fuel oils and lubricants were firm and paraffin wax prices were one-eighth cent per pound higher than last week.

The trade generally was giving most of its time to discussions as to the probable market reactions to the code when it becomes effective at the start of the new month. In the absence of any interpretation from Washington, one guess appeared as good as another and all may prove to be far afield from actual developments.

Refined Market Barometer

There was a distinctly better price tone in refinery markets throughout the greater part of the United States over the past week. Scattered price advances were reported in practically all products and with the start of a new month it was predicted that prices on refinery products would follow crude oil to generally higher levels. All grades of gasoline were stronger and prices advanced from one-quarter to one-half cent in several refining areas. Kerosene and distillate prices reflected an improved consumption. An advance of 10 cents in eastern bunker fuel prices reflected a stronger marine and industrial market. Gas oils also were pointing upward in price. Advances in Pennsylvania cylinder stocks were the most important change in lubricants. Mid-Continent wax prices higher.

Mid-Continent—Refinery gasoline and natural gasoline prices advance in all areas. Kerosene and distillate prices higher at most points. Industrial fuels and gas oils strong. Expect advance in cylinder stocks. Wax prices fractionally higher.

East Coast—Bunker fuel oil and gasoline prices advance. Better demand for furnace oils. Gas oils firm. No important changes in lubricants and wax.

Pennsylvania—Cylinder stock prices generally higher. Gasoline and kerosene steady. Wax strong.

Gulf Coast—Gasoline and fuel oil market strong. Red and pale neutrals unchanged.

Chicago—Market turns upward on gasoline, kerosene and distillate. Heavy fuels and gas oils firm.

California—Prices on low octane gasoline lower for domestic movement. Remainder of market firm.

Increase Crude Runs

There is a marked tendency to step up crude oil runs to stills not only in the Mid-Continent but in most refining areas in other sections. The reason obviously is speculative, the refiners being anxious to add to their supplies of refinery products before the expected higher prices for crude oil materialize. There is considerable storing of gasoline and other products in expectation of higher prices starting next month. While this is not a favorable factor, it is doubtful if the September and later markets will be weakened by the liquidation of these accumulations provided the expected curtailment of crude oil production under the Government's program becomes effective early in September. Present crude runs to stills if continued in the face of a seasonal decline in gasoline market this fall coupled with a large surplus of crude oil in excess of the heavy crude oil runs to stills can have only one ending if not stopped and the present strength of the refinery is entirely based on the assumption that the NRA code will accomplish this objective and prevent a general market collapse.

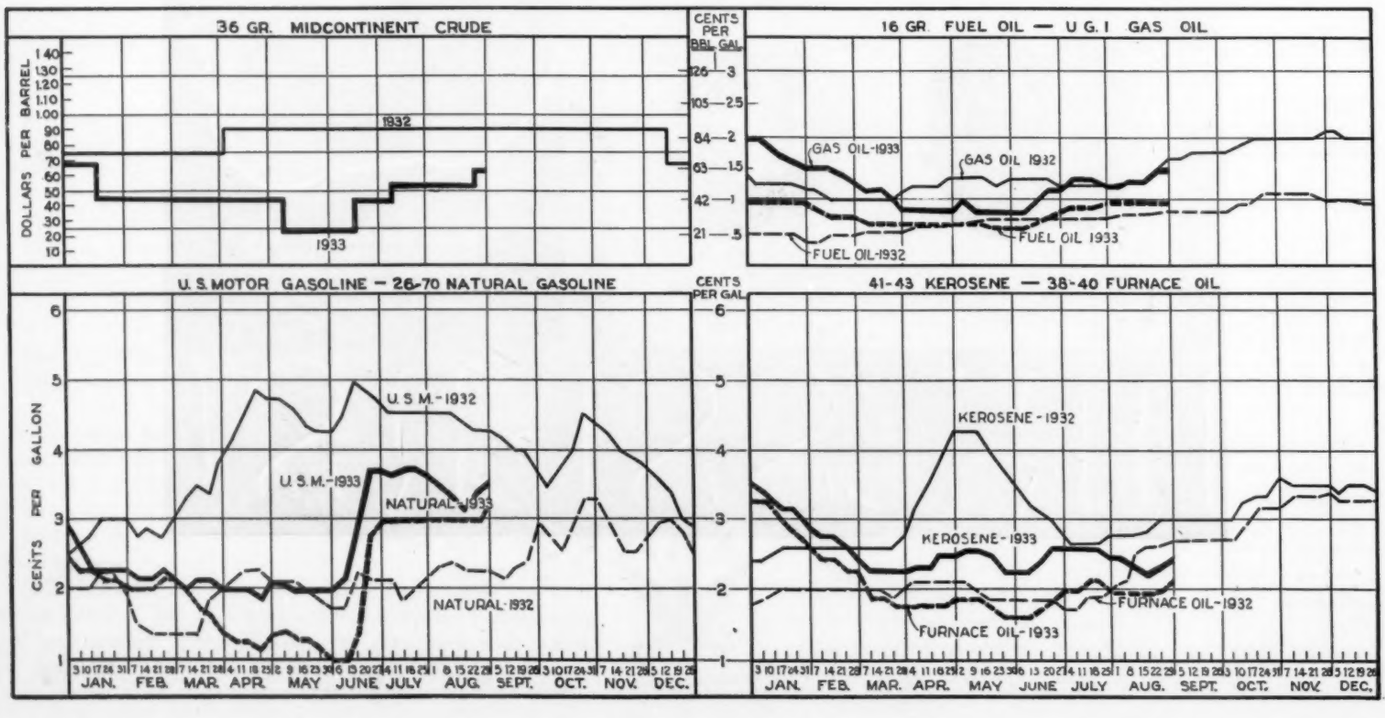
The more consideration that company executives, sales managers and others give to the code as signed by the President, the more they are convinced that its success will be almost entirely dependent on the ability of the Government to bring about a curtailment of crude oil supply in line with the demand, including a small withdrawal from storage. Even those who favor going the whole distance on government price control of markets agree that it will be impossible to enforce these prices indefinitely unless they are supported by a strong crude oil market which can only be brought about by a curtailment program which will be equitable as to states and rigidly enforced. Many will watch this angle of the Government's program more closely than the developments in regard to price control.

In the meanwhile, executives and refinery managers are engaged in a study of the labor provisions of the code with the view of making them effective as soon as possible. Several have already placed additional men on their pay roll. It is estimated that pay rolls of individual refiners will increase from 15 to 25 per cent, an additional cost which stresses the necessity of most operators securing better prices for their products.

Object to Price Feature

Additional complaint is heard regarding the price provision feature of the code which provides a price for 36 gravity crude oil determined by multiplying the Group 3 price per gallon for 60-64 octane U. S. Motor gasoline by the con-

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



stant 18.5 to arrive at the price per barrel at the well for crude oil. While practically all refiners appear dissatisfied with this base price, the strongest objections are coming from the skimming plant operators.

The following table gives typical data on yields and realizations based on a skimming plant operation with 36-degree gravity crude oil:

	Yields	Total realization
Gasoline	36	$0.529
Kerosene	8	.084
Gas oil*	25	.131
Fuel oil*	29	.06
Loss	2	
Total	100	$0.804

*High cold test.

In the table the gasoline price was figured at 3.5 cents per gallon (third grade); kerosene, 2.5 cents; gas oil, 1.25 cents, and fuel oil, .5 cent. The prices shown are in line with today's market, basis Group 3.

Under the code the minimum price for crude oil will be determined by the going market for the 60-64 U. S. Motor gasoline, which at this writing was 4.25 cents. Multiplying this 4.25 cents by the constant 18.5 and the minimum price under the code for crude oil at the wells is 79 cents per barrel.

This is practically the same as the total skimming plant revenue, indicating a loss under the most favorable circumstances of at least 20 cents per barrel. Some skimming plant operators might be able to secure a better return than shown in the table, but the additional revenue will not be sufficient in most cases to change the operation from the losing to the profit side of the ledger.

Suggested New Basis

Several refiners have protested this provision of the code. Dan Danciger, head of the Danciger Refineries, Inc., operators of the largest skimming plant in the East Texas Field, sent a protest to the Government with a suggestion as to a new price basis. The protest in part follows:

"The oil code as signed by the President proposes to fix the ratio between gasoline and crude oil. The ratio proposed is 18.5 times the tank car price of 60-64 octane gasoline and provides that the President may fix the price of gasoline for this grade at Group 3 points. It has been suggested that he will probably accept the current price of 4 cents on gasoline, which would mean that East Texas crude would be raised 28 cents per barrel without any compensating raise in the price of gasoline.

"Had the price of gasoline followed the increase in the price of crude in accordance with the long-established practice in the industry, the price of gasoline would have advanced from 4 cents to over 5¼ cents per gallon.

"This unbalancing of the relationship between the price of crude and gasoline will force the closing of refineries having a total capacity of 800,000 bbls. per day. The shutting down of 25 per cent of the refining capacity of the country will adversely affect the consumer by practically eliminating the manufacture of third grade gasoline.

"Consumers who have been using this third grade gasoline will be forced to purchase other grades at an additional cost of from 2 cents to 4 cents per gallon, which will add from $100,000,000 to $200,000,000 per year to the cost of his gasoline without any compensating advantages. Road tests show that the same mileage per gallon is obtained from third grade gasoline as is obtained from the higher price grades, the only difference being that acceleration is not quite as good as with higher octane gasoline.

"The gasoline price should be based upon a natural nation-wide standard, such as U. S. Motor straightrun gasoline of minimum octane rating, and thus prevent the manufacturers of tetraethyl lead from establishing minimum standards inimical to the best interests of the consumer.

"The 18.5 ratio will be made workable if U. S. Motor gasoline (minimum octane rating) is made the standard and the current prices of 3¼ cents per gallon for this grade of gasoline and 50 cents per barrel for 36-36.9-degree Be. gravity crude are made the basic prices, and the 18.5 ratio then applied to adjustments up or down from these basic prices.

"As the price of gasoline varies from 3¼ cents per gallon (the basic price of gasoline) the price of crude will vary accordingly (from the basic price of 50 cents per barrel) and by an amount equal to the difference between 3¼ cents (the basic price of gasoline) and the then current price for gasoline multiplied by the ratio 18.5 and adding or subtracting this amount to or from 50 cents (the basic price of crude) will give the then current price of crude corresponding with the then current price of gasoline.

"For example, if gasoline were selling in Group 3 for 6 cents per gallon, 36-36.9-degree Be. crude would be worth $1.01 per barrel.

.06	Current price of gasoline.
.0325	Base price of gasoline.
.0275	Difference—multiplied by
.185	(Ratio) equals
.50875	Product or increase in price of crude.
.50	Base crude price.
$1.00875	Price of crude on basis 6-cent gasoline.

"This solution permits the law of supply and demand to control the price of crude indirectly through the price of gasoline placing the price control with the consumer."

Gasolines

The low on third grade U. S. Motor gasoline to the trade the first of the week was 3½ cents. Little complaint was heard regarding the competition of East Texas refiners who were supporting the advances. The expectation that East Texas crude oil production will be materially curtailed under the government program coupled with a price program which will be unfavorable from the standpoint of profits for skimming plants is causing operators to hold for higher prices not only for gasoline but all other products. Some observers see in the code the elimination of a large part of the competition from East Texas refineries.

The middle octane U. S. Motor gasoline has been advanced to a low of 4¼ cents in Oklahoma. A 60-64 octane gasoline not meeting all the U. S. Motor gasoline specifications is available at prices from one-fourth to one-half cent under this quotation. The premium grade of U. S. Motor gasoline is unchanged. The 60-62, 400 endpoint grades of gasoline were advanced the same as U. S. Motor with slightly higher quotations on the high gravity grades. The latter continue inactive.

Natural Gasolines

The 26-70 grade of natural gasoline has advanced to a low of 3¼ cents. There has been a better demand for the lower vapor pressure grades ranging from 18 to 11 pounds and these grades are approaching the normal differentials above the 26-70 grade. The 18-pound material is selling over a price range of 3¾ to 4 cents with 11-pound quotations 4½ to 5 cents. Normally September is an active trading month for natural gasolines and manufacturers are looking forward to continued price improvement in line with the advances in refinery gasolines.

Kerosene and Distillate

As previously explained there is a distinctly stronger tone to the kerosene and distillate markets over the past few days. This is particularly true in the case of distillate. Although specification 41-43 kerosene was still available at a low of 2½ cents, refiners of prime white distillates were able to get as high as 2⅝ cents for their product. The curtailment of East Texas refinery operations is aiding the prime white and light straw distillate market. Some of the skimming plants do not attempt to make a finished kerosene and offer a distillate which meets the required specifications for low cold test furnace oil. The low on any good grade of furnace oil the first of the week was 2 cents. There are many buyers anxious to buy 32-36 zero, under 190 flash, gas oil for use as furnace oil. Prices on this product range up from 2 cents.

Fuel Oil and Gas Oil

Fuel oils continued firm although there are few spot sales reported. Cracking stock gas oils and U.G.I. gas oils in Oklahoma have advanced to a low of 1½ cents. It is pointed out in connection with this market that if refiners are forced to curtail their crude runs to stills under the government code, the tendency will be to operate cracking units at capacity and secure as large a gasoline yield as possible. This will tend to reduce the output of industrial fuels, gas oils and distillates throughout the entire Mid-Continent Field.

Lubricants and Wax

The Oklahoma market for neutral oils and cylinder stocks is steady. The domestic demand has shown a seasonal decline but stocks are not excessive at this time. The wax market continues active and the 124-126 grade has advanced to a low of 3⅛ cents. A sizable sale of Oklahoma wax at 3.35 cents per pound at the Gulf Coast was reported during the week.

GULF COAST MARKET

Refinery markets on the Gulf Coast have reacted favorably to the crude advance. Prices of gasolines and fuel have strengthened substantially. An increase of 10 cents was posted for bunkers at coastal terminals during the week which was followed by the boosting of the cargo market. Very little fuel is available and sellers are asking 75 cents for most of this product. Gasolines also are tight in anticipation of stronger prices about inquiries and movements also are some heavier. Some improvement in tone has been noted in lubs but the price competition between two of the larger sellers which has existed for some time prevents any substantial strengthening.

American Petroleum Institute Weekly Refinery Statistics

Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

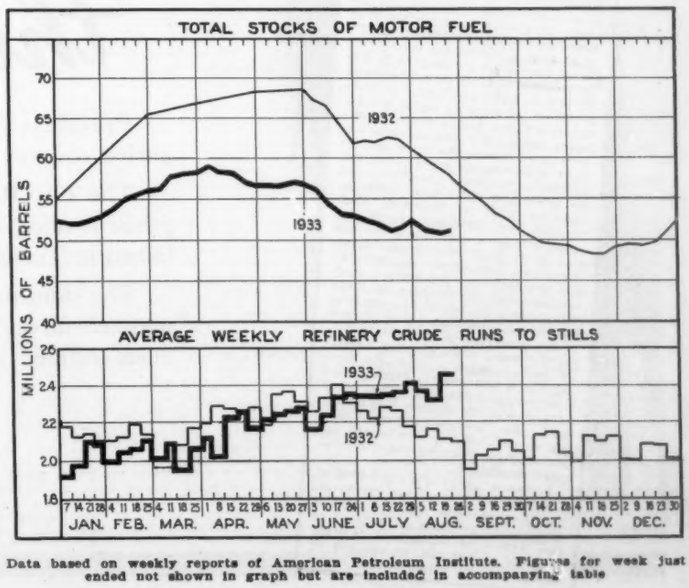
Week Ending August 26, 1933, Compared to Week Ago

	Week ending August 26, 1933				Week Ending Aug. 19, 1933			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	516,000	15,031,000	9,077,000	100.0	526,000	14,312,000	8,587,000
Appalachian	92.6	92,000	2,066,000	881,000	92.6	113,000	2,066,000	875,000
Ind., Ill., Ky.	97.3	356,000	6,952,000	5,091,000	97.3	351,000	6,910,000	4,966,000
Okla., Kans., Mo.	82.1	267,000	5,009,000	3,985,000	82.1	264,000	4,956,000	3,862,000
Inland Texas	58.7	82,000	1,301,000	1,821,000	58.7	82,000	1,315,000	1,819,000
Texas Gulf	98.0	473,000	5,503,000	7,269,000	98.0	470,000	5,340,000	7,392,000
Louisiana Gulf	100.0	131,000	1,421,000	1,944,000	100.0	127,000	1,403,000	1,956,000
N. La. and Ark.	92.6	57,000	253,000	619,000	92.6	61,000	265,000	616,000
Rocky Mtn.	78.8	34,000	885,000	757,000	78.8	38,000	961,000	759,000
California	96.9	465,000	14,189,000	100,033,000	96.9	456,000	13,910,000	99,846,000
Total U. S.	92.2	2,473,000	52,610,000	131,477,000	92.2	2,485,000	51,438,000	130,678,000

Total motor fuel stocks, Bureau of Mines basis, 54,610,000 bbls.

Week Ending August 26, 1933, Compared to Year Ago

	Week ending August 26, 1933				Week ending August 27, 1932			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	516,000	15,031,000	9,077,000	100.0	443,900	17,160,000	9,043,000
Appalachian	92.6	92,000	2,066,000	881,000	91.5	89,600	2,073,000	1,011,000
Ind., Ill., Ky.	97.3	356,000	6,952,000	5,091,000	98.9	277,000	7,592,000	4,358,000
Okla., Kans., Mo.	82.1	267,000	5,009,000	3,985,000	89.6	230,900	4,856,000	3,483,000
Inland Texas	58.7	82,000	1,301,000	1,821,000	76.5	95,100	1,539,900	2,120,000
Texas Gulf	98.0	473,000	5,503,000	7,269,000	99.8	362,400	4,689,000	9,767,000
Louisiana Gulf	100.0	131,000	1,421,000	1,944,000	100.0	96,300	1,744,000	4,242,009
N. La. and Ark.	92.6	57,000	253,000	619,000	97.0	42,400	213,000	627,000
Rocky Mtn.	78.8	34,000	885,000	757,000	89.4	45,400	1,768,000	537,000
California	96.9	465,000	14,189,000	100,033,000	96.7	421,100	15,210,000	99,737,000
Total U. S.	92.2	2,473,000	52,610,000	131,477,000	95.1	2,104,100	56,844,000	134,100,000



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table

Federal Government Recognizes TULSA

Section 6. During such periods as the production of crude petroleum in any State is within the allocation to that State, as provided in Section 3, Article III, of this code, it shall be an unfair practice within that State to buy, sell, receive in exchange, or otherwise acquire Mid-Continent crude petroleum of 36°-36.9° A. P. I. gravity during any calendar month at a price per barrel (to the nearest cent) less than that which will be determined by multiplying the average Group 3 tank car price per gallon of U. S. Motor gasoline of 60-64 octane rating during the preceding calendar month as ascertained and declared by the Federal agency designated by the President, by the constant 18.5. The constant 18.5 represents the relationship, during the period 1928-1932, between the average price per barrel of Mid-Continent crude petroleum of 36°-36.9° A. P. I. gravity and the average Group 3 price per gallon of U. S. Motor Gasoline of 57-65 octane rating or 58-60 U. S. Motor gasoline. For crude petroleum of lower or higher gravity and/or different quality and/or in different locality, fair and equitable differentials between the price of 36°-36.9° Mid-Continent crude petroleum, determined as above prescribed, and the prices quoted for other crude petroleums shall be observed. Each company or individual purchasing crude petroleum shall file a certified copy of its price schedule and subsequent price changes with the Planning and Coordination Committee. Such contracts for the purchase of crude oil as were in existence on the effective date of this code shall not be affected by the provisions of this section during the period of the contract, provided that a certified copy of each such contract is filed with the Planning and Coordination Committee within thirty (30) days of the effective date of this code. Such contracts, however, may not be renewed except with the approval of the Planning and Coordination Committee.

Section 6. (a). For a test period of not to exceed ninety days, the President may prescribe the base price of the gasoline described in Section 6 of this Article to which said constant shall be applied and, at the end of said period, the President may revise

as the CENTER of the OIL WORLD

President Roosevelt says *all* crude and gasoline prices for the entire country will be based on GROUP 3 tank car prices.

The GROUP 3 area consists of Oklahoma. Tulsa is the undisputed trading center of GROUP 3, and all GROUP 3 prices are established in Tulsa.

The dominant position of the Tulsa market has been generally recognized throughout the petroleum world for many years, and is now made official by Governmental action.

TULSA

Oil Capital of the World

Late Fields

MICHIGAN

MUSKEGON, Mich., Aug. 29.—Leading producers in the Porter Pool, Mount Pleasant Field, recommend proration of all wells exceeding 1,000 bbls. daily capacity as a solution for impending inadequacy of pipe line facilities because of recent and approaching completions of wells capable of 2,000 to 8,000 bbls. a day. Wells making less than 1,000 bbls. to be allowed open flow.

Edward F. Claggett, manager of Michigan producing division of Pure Oil Co., assured co-operation at special meeting of producers. Co-operation of Simrall Pipe Line Co. and other large buyers of Porter crude is to be sought.

Acceptance of proposed proration has been recommended to Pure Oil Pipe Line headquarters in Chicago by David Beach, superintendent of the Michigan division. Proration in other Central Michigan pools in Mount Pleasant and Clare areas is also considered but no action taken.

OKLAHOMA

The test of Barney Feagin and others in C SE SW, Section 10-20-2e, Noble County, had detrital at 4,160-83 feet and sandy lime at 4,185 feet. The hole filled 100 feet with oil in 10 minutes, together with a 100,000-foot gas showing. Six-inch pipe was being set. This is a wildcat southeast of the old Watchorn Pool.

Vaughn and others' test, C NW NE SW, Section 33-7-4, south St. Louis area, which was acidized with 1,000 gallons and loaded with 280 bbls. of oil, when opened flowed 40 bbls. a hour until the load was recovered and then 15 bbls. an hour. The flow declined to 25 bbls. in two hours, which was the last report on the well. Viola lime was found at 4,092 feet, dolomite at 4,170 feet and the best oil showing was at 4,215-16 feet.

Superior Oil Co.'s test, NE cor., Section 5-6-4, Pottawatomie County, had 1,-100 feet of oil in the hole coming from Viola lime at 4,130-32 feet.

The Amerada-Stanolind-I. T. I. O.'s No. 1, SW cor., Section 25-6-7, Sasakwa townsite, Seminole County, when last opened flowed 341 bbls. in one hour, of which 225 bbls. was produced in the first 30 minutes. It was again shut in.

It is reported there are 415 tubed wells in the Oklahoma City Pool as of 7 a. m., August 28. Of these 137 are in the Wilcox zone, 262 in the lower Simpson, 15 in the lime zone and 1 in the Fault Line area. Of the 415 tubed wells, 189 are on gas lift, 218 flowing naturally and 8 are pumped. August proration report shows 465 wells producing from the Wilcox sand, 438 from the lower Simpson and 5 are assigned to the Fault Line zone. Arbuckle lime wells produce unrestricted because they are all making water.

KANSAS

Garden and others' No. 1, C NE NW Section 11-21-7w, Rice County, was at a total depth of 3,380 feet and acting like an oil well. Chat was topped at 3,362 feet, 6-inch casing was set at 3,-365 feet. It made 65 bbls. in 20 minutes at a total depth of 3,375 feet. It was deepened to 3,377 feet and filled up 1,500 feet with oil. It swabbed 22½ bbls. in 1½ hours. At 3,380 feet there was no increase. It was shut in over night and in the morning was opened and flowed by heads but the volume of production was not ascertained. It was then shut in.

JERSEY TO LIST SHARES

The Standard Oil Co. of New Jersey has made application to the New York Stock Exchange to list an additional 200,000 shares of its $25 capital stock in conjunction with its fourth stock acquisition plan for employes. The application reveals that on issuance of the additional shares applied for, the total amount applied for listing will be 25,-940,965 out of an authorized issue of 30,000,000 shares. Application reveals that the company's counsel has not found it necessary that such stock be registered under the securities act of 1933.

Russia's Oil Production Falls Behind Schedule

Soviet oil output for the first six months this year was 10,416,000 tons, as against 11,246,000 for the like period last year, according to a report from Paris to the Wall Street Journal. Half-year production was 1,600,000 tons behind schedule. Planned production for year was set at 24,000,000 tons. But for the fortunate completion of wells in Baku region last spring production would have been much less. Compared with last year, Baku increased its daily output. In 1932 it fluctuated between 32,000 and 35,000 tons daily. Gushers are chiefly responsible for the increase. On the other hand, Grozny and Maikop production has fallen materially. At September 1, 1932, Grozny produced about 20,000 tons daily.

In general, the Soviet oil industry has shown a steady diminution in output since the autumn of 1931, as the following figures of average daily production in tons show: August, 1930, 53,364; August, 1931, 64,000; August, 1932, 56,-600; August 1, 1933, 54,000.

According to the Soviet press the main reason for the fall in output is unsatisfactory drilling. In Baku, for example, 224 wells were started, as against 340 scheduled. This is explained by unsatisfactory technical accomplishment, shortage of labor, and inefficient management. In long articles Soviet leaders point out that there is a shortage of technical specialists, and the Soviet metal industry persistently fails to supply pipes and other gear. Further, the labor question becomes more acute. Accidents have increased.

A special decree signed in July by members of the central government, demanded an increase in oil production at any cost. In execution of this decree the commissar of heavy industry published urgent instructions for an improvement in drilling. If that be not effected the year's program will not be fulfilled.

The unsatisfactory state of the industry is more reflected in the home section than in export. There has been a great effort to maintain foreign shipments. Home industry, especially agriculture, suffers more and more from undersupply of oil products.

MORE TAXATION ON MOTORISTS

Motorists face the possibility of tax increases, this time to finance unemployment relief, through the introduction of new tax bills in several of the state legislatures, according to information reaching the American petroleum industries committee. Legislatures are meeting in Arkansas, California, Colorado, Idaho, Iowa, Kentucky, New York, Ohio, Virginia and Wisconsin. The lower house of the Colorado legislature already has passed a bill designed to increase motor vehicle registration fees by $5, payable September 1, next, and by $10, payable January 1, 1934.

Motor vehicle registration in Colorado in 1932 was more than 7 per cent below that of 1931, and new car sales fell off more than 44 per cent. Gasoline consumption declined 11.76 per cent and gasoline tax collections fell off 10.5 per cent. Figures indicate that instead of the average registration fee of $7 the motor vehicle owner will pay $12 for 1933 and $17 for 1934. State gasoline taxes averaged $21.72 in 1932, but because of additional Federal taxes the average for 1933 is estimated at $29.86. The average tax bill per vehicle, therefore, is estimated at $41.86 for 1933 and $46.86 for 1934.

Standard Oil Dividends for Current Quarter Less

Disbursements by the companies of the Standard Oil Group for the current quarter of the year are estimated at $19,-546,576, the smallest amount for a quarter since the close of 1915, according to a compilation by C. H. Pforzheimer & Co. In the last quarter dividends totaled $34,527,547, and in the third quarter of 1932 $43,858,468. The distribution for the first three quarters of this year will approximate $86,480,455, compared with $136,938,394 in the same time last year.

Absence of a dividend distribution by the Standard Oil Co. of New Jersey this quarter accounts for the greater part of the decline as compared with the second quarter, when the company paid a semi-annual dividend of 50 cents a share, or approximately $12,870,000. The remainder of the decline was because dividends on the preferred stock of the Standard Oil Export Corp. and on many pipe line companies are on a semiannual basis and are paid in the second and fourth quarters of the year. The decline in cash payments from the third quarter of last year is largely due to omissions and reductions of dividends by several of the larger units.

REPAIRING GAS SYSTEM

CHATHAM, Ontario, Aug. 26.—The Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary has been overhauling and repairing its distributing system at Granum, Alberta.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective June 26, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.

	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canyon	Athens, Rosecrans, Dominguez	Torrance	Richfield	Whittier, La Habra	Montebello	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga
14-14.9	$0.55	$0.55	$0.55	$0.55	$0.55	$0.55	...	$0.55	$0.55	$0.55	$0.55	$0.55	...	$0.52	$0.52	$0.52
15-15.9	.55	.55	.58	.58	.55	.58	....	.55	.55	.55	.55	.55	...	.52	.52	.52
16-16.9	.55	.55	.60	.61	.58	.61	....	.57	.55	.57	.55	.55	...	.52	.52	.52
17-17.9	.57	.55	.63	.64	.61	.64	....	.60	.59	.60	.55	.57	...	.52	.53	.52
18-18.9	.60	.56	.65	.67	.64	.67	....	.62	.62	.62	.55	.60	...	.52	.56	.52
19-19.9	.63	.60	.68	.70	.67	.69	....	.65	.66	.65	.55	.62	...	.54	.59	.52
20-20.9	.66	.62	.71	.73	.70	.72	....	.68	.69	.68	.55	.65	...	.57	.62	.53
21-21.9	.69	.67	.73	.77	.73	.75	....	.70	.72	.71	.58	.68	$0.60	.61	.65	.56
22-22.9	.71	.70	.76	.80	.76	.77	....	.72	.75	.74	.60	.71	.64	.65	.68	.59
23-23.9	.74	.73	.81	.83	.79	.80	$0.68	.75	.78	.76	.64	.73	.67	.69	.70	.61
24-24.9	.77	.77	.61	.86	.82	.83	.71	.78	.82	.79	.67	.76	.70	.72	.73	.64
25-25.9	.80	.80	.83	...	.85	.85	.75	.80	.85	....	.71	.79	.73	.76	.76	.67
26-26.9	.82	.83	.86	...	.88	.88	.79	.83	.88	....	.75	.82	.76	.80	.79	....
27-27.9	.85	.87	.88	...	...	.91	.82	....	.92	....	....	.84	.80	.83	.81	....
28-28.9	.88	.90	.91	...	...	.94	.86	....	.95	....	....	.87	.83	.87	.84	....
29-29.9	.90	.93	.93	...	...	....	.89	....	.98	....	....	.90	.86	.91	.87	....
30-30.9	.93	.97	.96	...	...	....	.93	....	....	....	....	.93	.89	.95	.89	....
31-31.9	....	....	....	...	...	....	.97	....	....	....	....	.95	.92	.98	....	....
32-32.9	....	....	....	...	...	....	1.00	....	....	....	....	.98	.96	1.02	....	....
33-33.9	....	....	....	...	...	....	....	....	....	....	....	1.01	.99	1.06	....	....
34-34.9	....	....	....	...	...	....	....	....	....	....	....	1.03	1.02	....	....	....
35-35.9	....	....	....	...	...	....	....	....	....	....	....	....	1.05	....	....	....
36-36.9	....	....	....	...	...	....	....	....	....	....	....	....	1.08	....	....	....
37-37.9	....	....	....	...	...	....	....	....	....	....	....	....	1.11	....	....	....
38-38.9	....	....	....	...	...	....	....	....	....	....	....	....	1.14	....	....	....

Elwood—F.o.b. ship, 33-33.9 degrees, 91 cents; 34-34.9, 94 cents; 35-35.9, 97 cents; 36-36.9, $1; 37 degrees and over, $1.03.

Kettleman Hills—33-33.9 degrees, 76 cents; 34-34.9, 78 cents; 35-35.9, 80 cents; 36-36.9, 82 cents; 37-37.9, 84 cents; 38-38.9, 86 cents; 39 degrees and over, 88 cents.

Newhall, McKittrick and Kern River—14 degrees to 19 degrees and over, 52 cents.

Wheeler Ridge—14 to 20.9 degrees, 52 cents; 21-21.9, 55 cents; 22-22.9, 57 cents; 23-23.9, 60 cents; 24-24.9, 63 cents; 25 degrees and over, 66 cents.

The Union Oil Co. met all Standard Oil Co. of California prices in field's where both companies purchase, and posted as follows in East Coyote: 14 to 15.9 degrees, 55 cents; 16-16.9, 57 cents; 17-17.9, 60 cents; 18-18.9, 62 cents; 19-19.9, 65 cents; 20-20.9, 68 cents; 21-21.9, 71 cents; 22-22.9, 74 cents; 23-23.9, 76 cents; 24 degrees and over, 79 cents. Santa Paula, 14 to 18.9 degrees, 55 cents; 19-19.9, 57 cents; 20-20.9, 60 cents; 21-21.9, 62 cents; 22-22.9, 65 cents; 23-23.9, 67 cents; 24-24.9, 70 cents; 25-25.9, 72 cents; 26-26.9, 75 cents; 27-27.9, 77 cents; 28-28.9, 80 cents; 29-29.9, 83 cents; 30 degrees and over, 85 cents. Orcutt, 16 to 18.9 degrees, 52 cents; 19-19.9, 54 cents; 20-20.9, 57 cents; 21-21.9, 61 cents; 22-22.9, 65 cents; 23-23.9, 69 cents; 24-24.9, 72 cents; 25-25.9, 76 cents; 26 degrees and over, 80 cents. Lost Hills and Belridge schedule same as that of the Standard Oil Co. of California in Lost Hills; Mount Poso, Kern River, McKittrick schedule same as Standard's Newhall, McKittrick and Kern River schedule except that Union Oil Co. posts 47 cents for 11 to 13.9 degrees, inclusive. Union Oil Co.'s schedule also posts 47 cents per barrel for 11 to 13.9 gravity in Coalinga, Midway-Sunset, Elk Hills and Buena Vista Hills.

Texas Co. effective June 26, 1933, met Standard Oil Co. of California prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield, Montebello-North Whittier, Santa Fe Springs, and pays following prices in Shiells Canyon, South Mountain and Santa Paula: 14 to 18.9 degrees, 55 cents; 19-19.9, 57 cents; 20-20.9, 60 cents; 21-21.9, 62 cents; 22-22.9, 65 cents; 23-23.9, 67 cents; 24-24.9, 70 cents; 25-25.9, 72 cents; 26-26.9, 75 cents; 27-27.9, 77 cents; 28-28.9, 80 cents; 29-29.9, 83 cents; 30 gravity and over 85 cents.

Associated Oil Co., effective June 26, 1933, adopted Standard Oil Co. of California's prices with a few reservations in the upper brackets. In Huntington Beach the highest price is 86 cents for 26 degrees and over. In Richfield, top price is 85 cents for 25 degrees and over; Coyote Hills, top price is 73 cents for 23 degrees and over. In Seal Beach and Alamitos Heights, top price is 83 cents for 26 degrees and over; Torrance, top price is 80 cents for 25 degrees and over; Santa Fe Springs, top price is $1.05 for 35 degrees and over; Midway-Sunset, Elk Hills and Buena Vista Hills, top price is 95 cents for 30 degrees and over; the Associated Oil Co. also posts 47 cents per barrel for 11 to 13.9 gravity oil in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

General Petroleum Co., effective June 26, 1933, posted same prices as Standard Oil Co. of California with some reservations in the upper grades in some fields and in lower grades in one field: Midway-Sunset, top price is 95 cents for 30 degrees and over; Alamitos Heights, top price of 83 cents for 26 degrees and over; Santa Fe Springs, bottom price of 70 cents for 24-24.9; Richfield, top price of 85 cents for 25 degrees and over; Brea Canyon, Olinda, top price of 85 cents for 25 degrees and over; Torrance, top price of 80 cents for 25 degrees and over.

XUM

Effect of Past Production Practice and Waste of Gas Now Apparent in Oklahoma City Pool

By L. G. E. BIGNELL
Petroleum Engineering Editor

There is a marked increase of activity in the Oklahoma City Field due to the stimulus of the NRA movement and to the installation of a large amount of surface equipment for producing the wells and running tubing into them to prolong their natural flowing life. Many engineers have estimated that by early October practically all wells in the field will be tubed and on some form of mechanical lift. Orders to run potential tests in September are expected, although the exact date and manner of testing has not yet been set. Those conversant with conditions in this pool anticipate that takthe potential test will tend to deplete natural energy to the extent of shortening natural flow somewhat.

The Corporation Commission has issued an order dated August 15 and effective at 7 a.m. September 1 requiring every operator to make a complete report upon monthly production of each individual well. This report is required to make check upon over and under production for all wells so that the new form of Federal affidavit, which has also been adopted by the Oklahoma Corporation Commission, may be made effective. If such past production reports are not filed with the Corporation Commission by September 1 it is provided that any well upon which full record of past production has not been given will be shut down until such report is filed. The reports required by the Corporation Commission will date back to the time when proration by quantity of oil allowed each well was first made effective, but will not cover the period during which proration was based upon time flow.

On August 21, 410 wells had been tubed in the Oklahoma City Field; 137 were in the Wilcox zone, 257 in the Lower Simpson, 15 in the Arbuckle Lime zone and 1 in the fault line. This indicates that about 500 wells will still have to be tubed and this work is going forward as rapidly as pipe is being received in Oklahoma City. A carload of 2½-inch tubing contains about 10,000 feet, and they are running from 6,000 to 6,400 feet in each well, so that three carloads of pipe will tube five wells. It is reported that at one time there were 42 carloads of tubing in the Oklahoma City freight yards. Some temporary delays have been experienced because of shipments not arriving from mills as rapidly as the tubing is being run in the wells.

OKLAHOMA CITY FIELD WATERS

	Wilcox sand zone (Average of 5 samples)		Johnson sand zone (Average of 7 samples)		Siliceous limestone zone (Average of 4 samples)	
	mg/L	RV%	mg/L	RV%	mg/L	RV%
Calcium	11,284	8.40	10,807	7.40	11,864	8.66
Magnesium	2,014	2.47	1,995	2.25	2,138	2.56
Alkalis	60,022	39.13	67,478	40.35	61,015	38.78
Chloride	117,764	49.90	127,836	49.90	121,100	49.905
Sulphate	321	0.09	289	0.084	268	0.080
Bicarbonate	52	0.01	73	0.016	64	0.015
Total solids	191,457	100.00	208,478	100.00	196,449	100.00
Specific gravity	1.1486		1.1484		1.155	
Primary salinity, %	78.26		80.750		77.56	
Secondary salinity, %	21.72		19.218		22.41	
Secondary alkalinity, %	0.02		0.032		0.03	
Ca RV%	3.40		3.29		3.38	
Mg RV% / Cl RV%	1.275		1.238		1.289	
Na RV%						

Tubing Practice

Wells in both the Wilcox and Lower Simpson zones are being tubed by killing the well through filling the hole with crude oil until the column weight is sufficient to temporarily shut off flow from the formation. The top of the casing is then opened and the tubing run in the usual manner, using a portable tubing spider mounted upon an elevated platform on the derrick floor.

Winches mounted upon tractors or trucks furnish the power for handling the string of tubing into the hole. As every well in the Oklahoma City Field making oil is still equipped with steel derrick it does not take long to rig up for a tubing job. A good crew will rig up and run a 6,400-foot string of 2½-inch tubing in daylight tour. It is reported that one tubing crew ran 6,400 feet of 2½-inch tubing in 3 hours and 35 minutes, handling the pipe in single joints. This figures out about one joint per minute and was made running new tubing with all conditions favorable to rapid work. It usually requires between four and five hours to run new tubing into the hole.

It is usual practice to have a special crew prepare the well for tubing. This crew fills the hole with oil and makes everything ready for the tubing crew to rig up and put the tubing in the hole. When this work is finished, the top connections are put in place and the well is again put on production by another crew. The well may be started flowing in some cases by swabbing it through the tubing, but this practice is not followed as much now in Oklahoma City as kicking the well off with gas pressure.

A majority of the tubing strings are equipped with kick-off collars. There are several makes of kick-off couplings being used in tubing in the Oklahoma City Field. They are usually spaced about 300 to 400 feet apart on the string, starting at a point about 300 feet below the normal fluid level in the well.

The kick-off collar permits gas pumped down in the annular space between tubing and casing to break into the inside of the tubing when the fluid on the outside has been depressed to about the level of the top kick-off collar. This in effect divides the tubing flow string into several short lifts and eliminates the need of forcing the fluid in either the tubing or in the annular space between tubing and casing down to the bottom of the hole before the gas can break over and start flow. Kick-off collars are built to accommodate flow of pressure gas through either the tubing or annular space.

Fluid Levels

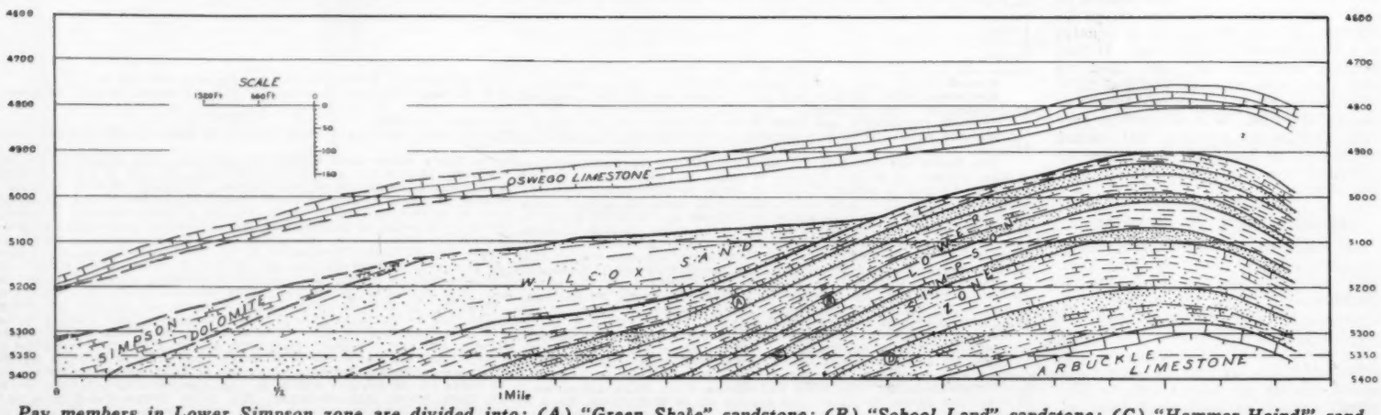
Before tubing is run in the well it is common practice to run a Halliburton measuring line to the bottom of the hole and check its conditions. It has been found in some wells that as much as 350 feet of the hole is filled with cavings. In one instance it is reported that 2,000 feet of cavings and settlings were encountered.

As the casing is usually set within 200 to 250 feet of the bottom of the drilled hole "settlings" probably better described the material in the hole because cavings could not normally enter the hole from behind the casing.

In the Wilcox sand wells it is a well-known fact that large volumes of loose sand have been produced with the oil during periods of high rate of production. It is therefore reasonable to assume that loose sand has also been in the oil column under lower flow velocities and has settled to the bottom of the hole and filled up the lower part of the casing when the upward velocity of the column of oil has been reduced or the well has been shut in.

The proration orders that have been effective in the Oklahoma City Field have permitted wells to produce only part time and during the flowing period loose sand and other material has been carried upward. The well was then shut down because its allowable had been secured and

Generalized Section of Producing Formations in North Portion of Oklahoma City Field



Pay members in Lower Simpson zone are divided into: (A) "Green Shale" sandstone; (B) "School Land" sandstone; (C) "Hammer-Haindl" sandstone, and (D) "Johnson-Kinter" sandstone. Scaling this drawing indicates the original horizontal water-oil contact in the Wilcox zone was 2,050 feet and about 5,780 feet of original water-oil contact in the Lower Simpson zone. Only part of the Lower Simpson zone formations are porous. The dotted line at —5,350 feet sea level datum indicates approximate water level at this time. Original water level was —5,400 feet sea level datum. The undrilled portion of the area is indicated by dotted lines at the left of the section

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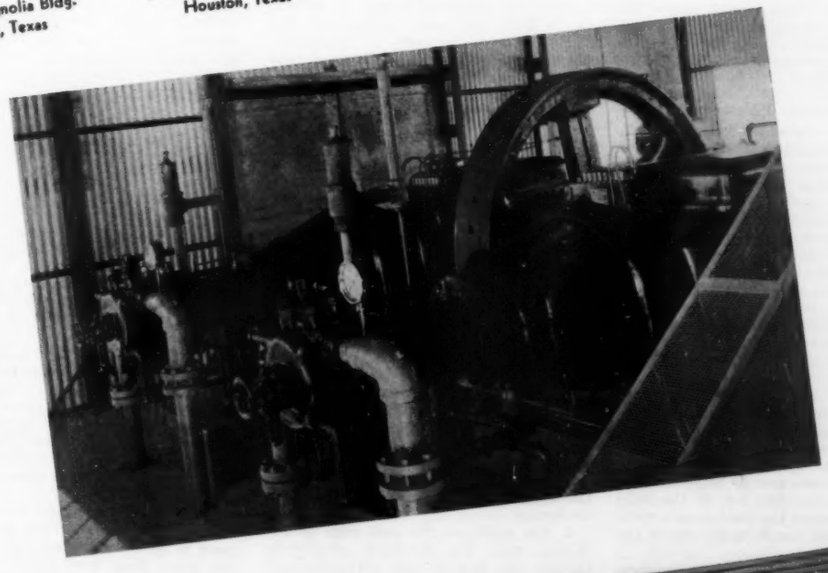


At right — View showing a Cooper-Bessemer Type-10 compressor unit with steel jacketed high pressure cylinders for 2000 pounds discharge pressure in The T. B. Slick Company's gas lift plant in the Oklahoma City field. This plant also contains three other Type-10 twin compressor units.

during this period of no flow this sand and foreign material has settled to the bottom of the hole.

Some operators maintain that this type of material has not materially retarded entrance of oil and gas into the casing. If the well still shows relatively high casinghead pressure and a good production capacity the settlings are not removed when the tubing is run. This is particularly true of the Wilcox sand wells because when they are cleaned it has been noted that the material removed is made up largely of sand with some large pieces of shale. Because of the fact that this loose sand has merely again settled in a column of fluid it seems reasonable to assume that its porosity and permeability will be relatively high. This condition should permit both gas and oil to flow into the tubing or casing freely.

Lower Simpson wells do not present quite the same condition. The producing sands in the Lower Simpson formation consists of three or more stratas and these producing zones are separated by shales. When the walls of the open hole sluff off the hole is filled with materials that can disintegrate and form muds and this will tend to lower porosity and permeability. Consequently flow into the Lower Simpson wells may be retarded and it may be necessary to clean out the hole to bottom before running tubing.

Many Lower Simpson wells have been plugged off with cement to shut off bottom hole water. Others have been entirely cemented off and redrilled until they again made clean oil. Such wells have little open hole left below the casing although there may still be sufficient to justify cleaning out before tubing is run.

It is general practice to run the tubing to within a few feet of the bottom of the cleaned hole. Some operators actually set it down within 10 or 12 feet of bottom and hope thereby to get a pocket of oil in the bottom of the hole and force the gas to pass downward through this oil seal before escaping into the inside of the tubing. This has helped to reduce gas-oil ratios in some instances and in others it has not made much difference. In a few instances it has actually reduced the number of barrels of oil produced and while the total volume of gas produced has been decreased the gas-oil ratio has really been increased because the proportion of gas per barrel of oil is higher after tubing than during flow through casing.

Manipulation of adjustable beans at the tubing head and regulating back pressures at the face of the sand has in many instances reduced the gas-oil ratios. In some instances changing the position of the bottom of the tubing by raising or lowering it has improved gas-oil ratio, also recovery of oil.

Formation Pressures

It is reported that the original pressure for all formations in the Oklahoma City Field was approximately 2,660 pounds. The common water level has been established at —5,400 feet sea level datum at the time the field was opened. Analyses of waters from the Arbuckle lime, Lower Simpson and Wilcox sands have determined that the average specific gravity is approximately 1.15. This would make a column of water 1 foot high and 1 inch square exert a pressure of .4991 pounds per square in. For a column 5,400 feet high the pressure would be 2,695 pounds.

As the oil and gas have been withdrawn from the various formations in this field, formation pressures have been reduced. At the present time it is reported that the average fluid levels in the Lower Simpson zone is between 3,000 to 3,300 feet from the top of the hole. In the Wilcox sand the fluid stands within 2,100 to 2,400 feet from the top of the hole.

The Lower Simpson wells produce varying amounts of water from a trace to as much as 85 per cent. There are only 18 wells in the Wilcox zone that have reported water, so most of the Wilcox wells produce only oil and gas. It is reported that the bottom hole pressure in the Wilcox zone is about 900 pounds and the minimum pressure at which they will flow naturally is about 700 pounds bottom hole. The Lower Simpson zone bottom hole pressures are higher than Wilcox sand bottom hole pressure and are reported to be around 1,200 pounds per square inch. This higher pressure in the Lower Simpson formations is probably due to repressuring by water which is lacking in the Wilcox formation.

The lack of repressuring or water drive effect in the Wilcox sand zone has furnished a problem that has caused much discussion among engineers, production men and geologists. Under all normal conditions it would seem that as oil and gas were removed from this formation the water should have driven oil up-dip into the depleted portions of the formation. Because of the steady drop in pressure and the formation of the large gas cap in the Wilcox sand this does not seem to have occurred.

There are about 460 completed wells in the Wilcox sand and it is reported that 137 of them were tubed on August 21. Most of the wells have been put on some form of gas lift immediately as tubed, and it is believed that the balance of the Wilcox sand wells will be tubed as rapidly as possible to permit them to secure the well's allowables.

Wilcox Sand Conditions

Any explanation that may be attempted covering the lack of repressuring in the Wilcox sand zone must take into consideration the fact that many underground conditions are unknown because all of the Wilcox zone has not been drilled. The relative position of the north end of the Wilcox sand zone to the limits of Oklahoma City has prevented wells from being drilled in a large part of the Wilcox sand at the north end of the field. Data are therefore not available from drilled wells and because of the fact that care was used in drilling into the thick sand portion of this formation in the area adjacent to the city few wells have penetrated through it so the exact position of the base of the Wilcox is a matter of conjecture.

A few wells on the east edge of the Wilcox zone did penetrate completely through the base of that formation and into Lower Simpson and has been classified as combination wells as they produce from both formations. Many of these wells have since been plugged back into the Wilcox because of fear of water coming up through them into the upper sand and also because it was found at one time that the higher pressure in the Wilcox formation was draining into the lower pressure Lower Simpson zone. These conditions were exceptions but interesting because they furnish some evidence for the study of general underground conditions of the field.

Cross sections of the pre-Pennsylvanian formations in the north end of Oklahoma City present many interesting facts. However, the known data is lacking beyond the city limits and it is therefore impossible to prove one hypothesis which might explain lack of repressuring in Wilcox formation.

Water Analysis

It is generally agreed that the Oklahoma City structure dips away from the Arbuckle limestone formation in all directions except to the east. The pre-Pennsylvanian formations are cut off to the east by faulting. Wells have penetrated to the —5,400-foot hole sea level datum in the Arbuckle and Lower Simpson zone and as they have taken in the full section of pre-Pennsylvanian formations it is possible to map them with fair accuracy.

Such a cross section indicates that the various stratas making up the Lower Simpson and Arbuckle all dip below the original water level common to the field. Analyses of water from the Stamper lime, the lowest formation in the Lower Simpson section, is very similar to water from the Arbuckle. Because drill holes actually penetrated through the Stamper and into the Arbuckle it seems quite logical to assume that water has moved across the formations and up into the base of the Lower Simpson from the Arbuckle lime.

Water from the Johnson sand section of the Lower Simpson also is quite similar to Arbuckle water. It might then be logical to assume that there may be a common source for the waters in the Arbuckle lime and Lower Simpson formations, and they were originally under approximately the same hydrostatic pressure.

The history of the field shows that the Arbuckle lime was drilled first and because of lack of knowledge of this formation many wells were drilled into water. Later they were plugged back and repaired with varying degrees of success.

The next part of the field to be drilled was the south half of the Lower Simpson zone. Because of the water trouble encountered by drilling too deep in the Arbuckle formation drillers were cautioned against drilling too deep in the first Lower Simpson wells. There is also a marked change in geological section in this south end of the Lower Simpson, probably influenced by a spur of Arbuckle lime that runs out to the west at about the center of the field.

This Arbuckle lime spur or nose really divides the Lower Simpson into north and south zones. The general dip of the formation in the South zone of Lower Simpson is to the south and southwest and fairly regular so the water would have to travel up-dip for a considerable distance to enter wells in this portion of the field.

Following the history of development of this field it is found that the next zone to be drilled was the north end of the Lower Simpson formation. Because of many conditions existing at the time this part of the field was drilled full sections of the Lower Simpson formation were penetrated and it is reported that many wells were actually drilled into the upper part of the Arbuckle lime.

This method of finishing the Lower Simpson wells furnished a means of permitting Arbuckle water to enter the upper formations and it seems from water analyses that this has actually happened, of the waters from the Lower Simpson and Arbuckle lime are from one common source.

In the box in this article is given the analyses of typical waters from the Wilcox sand, Johnson sand of the Lower Simpson section, and Arbuckle or Siliceous lime. The samples were secured from typical wells in each formation, and the averages of five Wilcox, seven Johnson and four Arbuckle waters are given. These values were computed by taking the arithmetical averages of the various solids reported in each sample. For instance, the total amount of calcium in five Wilcox samples were added together and divided by five and this used as average calcium for Wilcox waters. These figures were then totaled to give total solids and the balance of the computation carried out in the usual manner as accepted by chemists analyzing oil field waters.

It is quite probable that chemists, geologists and engineers familiar with oil field waters will have many various opinions as to the interpretation to be placed upon this evidence. Roy L. Ginter, consulting chemist, Tulsa, who made the computation of reactive values, states:

"Because waters are the same or similar in character does not prove that the origin is the same or that there are means of common communication. Often the water in a horizon will change in character laterally to a greater extent than is shown above. However, it seems very possible that these waters are now undergoing some degree of admixture because of production activity and further because there are no continuous shale beds between Wilcox, Johnson and Arbuckle lime."

If the waters of the three formations were of common origin it might be assumed that relief that has occurred in the Lower Simpson formation had reduced effective pressure drive in the Wilcox sand and this would account for lack of repressuring in the Wilcox.

While this theory is not proven by water analyses it may be also assumed by study of the known geological conditions that the base of the Wilcox sand is only a little above the original water level of —5,400 feet sea level datum. By this line of reasoning and study of contours it is found that the water and oil contact in the Wilcox formation would be at some distance down-dip from the tip of the Wilcox sand.

It is generally agreed that there was a small gas cap in the upper portions of all the sands in the Lower Simpson formation and in the Wilcox sand. The gas cap in the Wilcox sand has increased very appreciably as oil and gas have been produced. This is one piece of evidence for lack of repressuring in this formation and it seems to be agreed to by most engineers.

It is now reported that the common water level in the field is from 40 to 60 feet above —5,400 feet sea level datum or

(Continued on Page 38)

TUBING RECORD, OKLAHOMA CITY FIELD, AUGUST 21, 1933

Company—	Wilcox zone Wells	Wilcox zone Tubed	Simpson below Wilcox Wells	Simpson below Wilcox Tubed	Lime zone Wells	Lime zone Tubed	Fault zone Wells	Fault zone Tubed	Total wells Wells	Total wells Tubed
I. T. I. O. Co.	68	18	197	122	13	13	3	1	281	154
Phillips Pet. Co.	102	36	9	8	0	0	0	0	111	44
T. B. Slick Est.	69	31	51	33	0	0	0	0	120	64
Anderson-Prichard	14	0	17	10	0	0	0	0	31	10
Wilcox O. & G. Co.	12	5	0	0	0	0	0	0	12	5
Wirt Franklin	3	1	34	23	0	0	0	0	37	24
Cromwell-Franklin	0	0	23	18	0	0	0	0	23	18
Sinclair Prairie	33	25	26	14	0	0	0	0	59	39
Coline	0	0	26	10	0	0	0	0	26	10
Champlin	9	1	3	3	0	0	0	0	12	4
Continental Oil Co.	12	6	0	0	0	0	0	0	12	6
Argood O. & G. Co.	0	0	1	1	0	0	0	0	1	1
J. C. Shaffer	4	0	4	3	0	0	0	0	8	3
Russell Pet. Co.	1	1	1	0	0	0	0	0	2	1
Ocate	3	1	0	0	0	0	0	0	3	1
Mid-Kansas O. & G.	0	0	4	1	0	0	0	0	4	1
Blackwell O. & G.	2	1	3	1	0	0	0	0	5	2
Wrightsman	1	0	1	1	0	0	0	0	2	1
Oklahoma City Ref.	2	2	0	0	0	0	0	0	2	2
American O. & R.	2	1	0	0	0	0	0	0	2	1
Plains Pet. Co.	1	0	1	1	0	0	0	0	2	1
Mid-Texas	2	1	0	0	0	0	0	0	2	1
Kedberg O. & G.	0	0	1	1	0	0	0	0	1	1
Scott & Co.	0	0	1	1	0	0	0	0	1	1
Denver P. & R.	7	2	2	1	0	0	0	0	9	3
British American	8	2	1	1	0	0	0	0	9	3
Hall-Briscoe	2	1	0	0	0	0	0	0	2	1
Blackstock-Mabee	4	2	0	0	0	0	0	0	4	2
Shell Pet. Corp.	6	0	4	0	2	2	0	0	6	2
C. C. Julian (J. W. Harreld, rec.)	0	0	3	3	0	0	0	0	3	3
Reynolds-Unruh	0	0	1	1	0	0	0	0	1	1
	361	137	414	257	15	15	3	1	793	410
Total wells	462	137	438	257	15	15	3	1	918	410

Note—The Corporation Commission of Oklahoma, oil umpire's office, has classified wells in the Oklahoma City Field as Wilcox zone, Simpson below Wilcox zone and Fault Line zone for the purpose of proration. Wells in the Siliceous Lime zone are permitted to flow unrestricted. There are about 49 wells in the Siliceous Lime zone still producing some oil, 48 being on gas lift and 1 on pump. Fifty-seven Siliceous lime wells have been converted into gas wells and produce from Pennsylvanian formations, and nine have been plugged and abandoned. There were 115 wells drilled in this zone.

There were 410 wells tubed on August 21 and the above report covers those wells, also the total number of wells owned by the companies who have tubed wells. The report accounts for 793 out of 918 wells, with 15 wells in the Siliceous Lime zone. These 15 wells should be deducted from the total of 918, leaving 905 wells covered by proration orders.

Adding the 905 prorated wells to the 115 Siliceous wells drilled gives 1,020 total wells drilled in Oklahoma City as of July 1.

This report indicates that there were still 495 prorated wells to be tubed after August 21.

Gas Lift to Be Applied to Oklahoma City Wells as the Natural Formation Pressures Decline

By S. F. SHAW
Consulting Engineer, San Antonio, Tex.

The Oklahoma City oil field is of unusual interest from a production standpoint due to its considerable depth, high pressures, immense initial productions and to methods of production imposed by reason of the necessity of curtailing production.

The field was opened in December, 1928, at a depth of 6,402 feet. Initial pressures in the reservoir were probably in the neighborhood of 2,600 pounds per square inch. Lindsly reports that 885 cubic feet of gas per barrel of oil were dissolved underground and that 430 cubic feet are dissolved at 1,100 pounds pressure. The gravity of the oil is about 40° Be. at 60° F., viscosity of the oil is 41 seconds Saybolt at 100° F., and bottom hole temperature is 124° F. These factors probably have a considerable bearing on the production of the oil in this field.

Ultimate recovery has been estimated by various engineers as follows:

Authority and reference—	Barrels of oil from the various zones— Arbuckle	Lower Simpson	Wilcox	Total
Rae, A.P.I., Dec., 1931	.....	.....	.....	314,000,000
Lowe, N.P.N., 1-8-1932	20,800,000	80,000,000	192,000,000	292,800,000
Knowlton, A.P.I., 7-3-1932	.....	.....	376,000,000	.....
Shaw, O.G.J., 8-8-1932	18,000,000	60,000,000	175,000,000	253,000,000
Brace, O.W., 6-26-1933	.....	.....	.....	290,000,000
Hill and Rawlins, R.I. 3,217, June, 1932	.....	.....	.....	400,000,000
Anon., O.W., 7-31-1933	.....	.....	.....	256,000,000

Arbuckle Zone

The discovery well was drilled in the Arbuckle lime zone. The depth of wells in this zone is approximately 6,500 feet and average penetration is about 395 feet. Initial productions averaged approximately 9,500 bbls. per day, based on methods employed at that time, which of necessity were different from the conditions under which initial productions had been based up to that time. Porosity was undoubtedly high as evidenced by the rapid encroachment of water. The total number of wells drilled into the Arbuckle zone was about 115, with initial production aggregating 1,100,000 bbls. per day. Published data are not available as to the average initial gas-oil ratios.

As a rule, the wells in the Arbuckle limestone have been produced on natural flow as long as they would yield a satisfactory quantity, after which they have been placed on gas lift and so produced until exhausted of oil possible to produce at a profit. Two or three wells in the Arbuckle zone were placed on the beam pump for a short while, and one well was produced in an experimental way by means of the Reda submerged centrifugal pump. Up to the present time, 57 oil wells have been plugged back to an upper gas sand and converted to gas wells. Most of these gas wells were placed on gas lift after natural flow ceased. Out of 49 wells now rated as producers, 48 are reported on gas lift, and will probably continue on that method until the wells are abandoned.

The gas factors for production of some of the wells in the Arbuckle zone are as follows:[1]

GAS RATIOS IN GAS-LIFT WELLS IN THE ARBUCKLE ZONE

Year—	Bbls. oil	Gas ratios per barrel of oil— Input	Output	Gas-oil ratio
1930	105,994	7,648	11,848	4,200
1931	116,634	5,988	9,042	3,052
1932 (9 months)	184,421	9,012	11,859	2,846
Total	407,049	7,791	11,049	3,259

These average factors are high as compared with those of most fields, and are probably very high because of the large quantity of water lifted with the oil. However, the input factor at approximately 8,000 cubic feet per barrel for such conditions is not prohibitive, assuming that the cost of compressing gas was 3 cents per 1,000 cubic feet, making for a lifting cost of 24 cents per barrel of oil. Under the conditions of depth and large quantity of water it was impracticable to employ any other method.

The economic limit in the Arbuckle zone is so near at hand that future methods that might be used will not be considered in this article.

Lower Simpson Zone

The average depth of the Lower Simpson zone wells is about 6,500 feet. This zone is made up of the Johnson, Kinter, School Land, Cleveland, Hammer-Haindl, Detrital and other sands, which are combined for the purposes of this article. Initial pressures were high, and initial productions averaged approximately 7,300 bbls. per well per day. Average initial gas-oil ratios are not available for the Lower Simpson zone. The total number of wells drilled into this zone was 445, and aggregate initial production was approximately 3,200,000 bbls. per day.

Production up to July 1, 1933, from the Lower Simpson zone amounted to 49,800,000 bbls.[2] from 445 wells on 4,973 acres, or an average of 10,000 bbls. per acre. The wells have been produced on natural flow as long as that method would yield a fair quantity of oil, after which they have been placed on the gas lift. One well was tried out on the pump which was actuated by a piston attached to the pump and submerged with it, and was driven by compressed gas, but accumulation of paraffin interfered with the operation. At the present time there are 277 wells flowing naturally, 165 wells on gas lift and two wells on the pump. There are 193 wells making water in the Lower Simpson zone.

Gas factors for a group of wells operated by gas lift have been as follows:[2]

GAS FACTORS IN GAS-LIFT WELLS IN THE LOWER SIMPSON ZONE

Year—	Bbls. oil	Gas ratios per barrel of oil— Input	Output	Gas-oil ratio
1930	65,933	2,662	3,771	1,109
1931	427,892	1,718	3,034	1,316
1932 (9 months)	806,735	5,007	6,850	1,842
Total	1,300,560	3,806	5,438	1,632

The average input gas ratio at 3,800 cubic feet per barrel of oil is not high for wells of this depth, and at 3 cents per 1,000 cubic feet would make for a lifting cost of 11½ cents per barrel. However, the great increase in the input factor for the year 1932 over that for the year 1931 suggests a large increase in water encroachment and if the water has continued to increase, the input ratio would inevitably be due for a further increase. The average gas-oil ratio of the Lower Simpson wells at 1,632 cubic feet per barrel is only about one-half the gas-oil ratio in the Arbuckle zone wells produced by gas lift. Tests on one well in this zone observed by the writer while producing at the rate of 4,400 bbls. per day of pipe line oil indicated an input factor of 476 cubic feet per barrel, an output factor of 721 cubic feet per barrel, and a gas-oil ratio of 245 cubic feet per barrel with bottom hole pressure approximating 600 pounds per square inch.

Back pressures were applied early in the productive life of the Lower Simpson wells, and as production was held at only a small fraction of the official potential, it was hoped that water movement in the sand would be controlled by this means. Nevertheless, it seems that no effective control of water movement was achieved.

In the Lower Simpson zone the number of wells flowing naturally will probably gradually decrease and the number on gas lift will gradually increase. With water entering in large percentage, costs of production will probably increase until the economic limit is reached when the wells will be abandoned, or plugged back to upper gas sands.

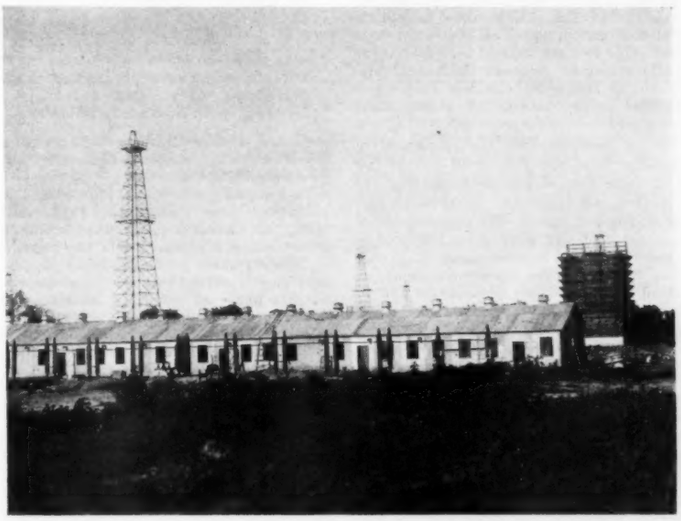
Wilcox Zone

Wells in the Wilcox zone are from 6,400 to 6,700 feet in depth and have opened sand thickness ranging from a few feet to over 200 feet, with penetration averaging possibly 100 feet for the entire productive zone. Until recently it was supposed that this sand was quite uniform in texture, but a cable-tool hole recently drilled is reported to have disclosed the fact that the Wilcox sand is not continuous but contains rich streaks, poor streaks and partings.[3] Figures for porosity have been difficult to determine owing to the difficulty in obtaining satisfactory cores. A 9-foot core from one well gave an average porosity of 22.6 per cent.[3]

Initial productions in the Wilcox zone have averaged approximately 28,500 bbls. per well, and with 455 wells drilled to July 1, 1933, the aggregate initial would appear to be about 13,000,000 bbls. per day. These initials were taken on basis of four-hour tests, which with close spacing and with adjacent wells closed in at the time of the test does not permit comparison with initials taken in other fields in previous years, nor can they be compared with the Arbuckle or Lower Simpson zone initials in the same field.

Production to July 1, 1933, is estimated at 76,500,000 bbls.[2] from 455 wells, covering 3,485 acres in the Wilcox sand, or an average of 22,000 bbls. per acre. Bottom hole pressures are now reported as 1,200 to 1,300 pounds per square inch. As yet very little water has entered the Wilcox wells.

Initial gas-oil ratios are not available for the Wilcox zone as a whole, though the gas-oil ratio for a group of 50 scattered wells in June, 1930, was 1,330 cubic feet per barrel, and for the same wells in November, 1931, was 1,590 cubic feet per barrel, with average back pressure 167 pounds. Gas-oil ratios in wells of the Wilcox zone have not been high in the past, but are said to be increasing at an alarming rate. It would appear that the production of 76,000,000 bbls. in this zone has reduced the pressure to less than one-half of its initial pressure, consequently large volumes of gas have come out of solution. By reason of the intermittent manner in which these wells have been produced by opening them for a short time and then closing them in, the pressures over the area tend to become equalized, giving the gas sufficient time to come out of solution from the oil and to flow to the higher points in the formation, thus forming gas caps. By reason of this gas escaping from solution the oil has become more viscous, thus rendering the sand less permeable to whatever extent permeability is influenced by this lower viscosity. Whether the effect of viscosity on permeability is of large mag-



Compressor plant recently erected for T. B. Slick estate on Classen-Edwards lease in Oklahoma City field

[1] H. B. Hill and E. L. Rawlins, Bureau of Mines Report of Investigations 3,217, June, 1933. "Estimate of the Gas Reserves of the Oklahoma City Oil Field, Oklahoma County, Oklahoma."

[2] L. G. E. Bignell, "Changed Conditions in the Oklahoma City Field Create New Problems for Production Men." The Oil and Gas Journal, July 27, 1933, p. 8.

[3] D. A. McGee and W. W. Clawson, Jr., "Geology and Development of Oklahoma City Field, Oklahoma County, Oklahoma." Bull. A.A.P.G., Vol. 16 (1932), p. 998.

XUM

nitude or not, at least, this gas has not served the purpose of mixing with the oil and moving it toward a producing opening, but has moved to upper parts of the structure, rendering wells in that vicinity incapable of producing oil that would probably otherwise be capable of being produced. It has been argued that slow rate of production would conserve the gas, hold back uniqual water intrusion, reduce the gas-oil ratio, increase the ultimate recovery, etc., but even with the production held to the extraordinarily low rate of one-half to 2 per cent of the official potential, the rate has been altogether too rapid for water to gradually move the oil upward, otherwise pressures would have been maintained and gas caps would not have formed. There has been a similar experience at Hobbs, Raccoon Bend, East Texas, and in the Masjid-i-Sulaiman Field in Persia in that a rate of production close to the lowest economic point was not sufficiently low to allow a gradual water advance sufficient to maintain the pressure. These occurrences make it reasonable to assume that these gas caps are caused by too low a rate of production rather than a rate that is too high, paradoxical as this may seem.

Up to the present time most of the wells in the Wilcox zone have been produced on natural flow, but the number of wells ceasing to flow is now increasing. On July 1, 1933, there were 389 wells on natural flow, 32 wells on gas lift, and 34 wells on the pump.[2] Eighteen wells in the Wilcox zone are listed as making water.

Gas factors on a few wells produced by gas lift have been as follows:[1]

GAS FACTORS IN GAS-LIFT WELLS IN THE WILCOX ZONE

Year—	Bbls. oil	Gas ratios per barrel of oil — Input	Output	Gas-oil ratio
1931	17,371	211	724	512
1932 (9 months)	135,394	369	903	534
Total	152,765	351	883	532

The input factor is unusually low, and would imply a very low cost for lifting the oil. At 3 cents per 1,000 cubic feet the lifting cost would be about 1 cent per barrel. Gas-oil ratios also appear to be very low.

Much the larger part of the future production from the Oklahoma City Field will be recovered from the Wilcox zone. As pressures continue to decline, most of the wells will cease flowing naturally and must be produced artificially. Pumps in use at the present time are probably set high in the well, or are acting merely to agitate the oil, therefore, can handle the allowable production to fair advantage, but when the pressures have declined considerably it remains to be seen whether they can handle the required production, and when potentials are to be established it may be necessary to change to another method that has a greater capacity. Rodless pumps driven by electric motor are to be tried out and may be able to handle the production as long as large quantities need not be lifted.

It appears at this time as if the gas lift is the method that will be employed in the future to greatest extent in the Wilcox zone when the wells cease to flow naturally, owing to the great depths from which it will be necessary to lift the oil and to the possible necessity of handling large quantites of oil as requirements may demand.

For various reasons it would appear doubtful in this town-lot area of thickly congested wells whether large central compressor plants would be suitable for handling gas-lift work, and yet it would be too expensive to build individual plants for each well. Perhaps a happy medium can be worked out whereby three to five wells can be handled from one plant. It may be possible that the output gas can be sold to gasoline plants and the residue gas returned to the small plant near the well under pressure of 100 to 300 pounds, where it could be stepped up to the pressure necessary to operate the well. The plant at a small group of wells would then be an inexpensive installation. If, however, an operator desired to erect a combined gasoline and gas-lift plant, such could be done. When pressures in the formation have declined to a low point, it will be more economical to employ intermittent flow than continuous flow.

There are no published ratios of actual practice that will serve as a guide for handling wells in the Wilcox zone on gas lift; therefore, the following table has been prepared as a tentative guide:

CUBIC FEET OF OUTPUT GAS REQUIRED TO LIFT 1 BBL. OF OIL FROM WILCOX SAND IN THE OKLAHOMA CITY POOL, UNDER VARIOUS BOTTOM HOLE FLOWING PRESSURES

Bottom hole flowing pressure	Cu. ft. output gas required to lift 1 bbl. of oil
1,200	190
1,000	290
800	430
600	690
500	950
400	1,230
300	1,700
200	2,580
100	6,000

These output factors are based on the assumption that the flow-pipe diameters are of the correct size for the production that is being made, that the well is operated at the proper rate, and that the oil is clean oil of approximately 40° A.P.I. Incorrect diameters will increase the output factors.

On basis of cost of compressing gas at 3 cents per 1,000 cubic feet, it would appear as if a bottom hole pressure of about 100 pounds is approximately the minimum pressure permissible for continuous flow. When the reservoir pressure has declined such that the flowing pressure is below 100 pounds it would probably be more economical to produce the wells on intermittent flow until they are exhausted.

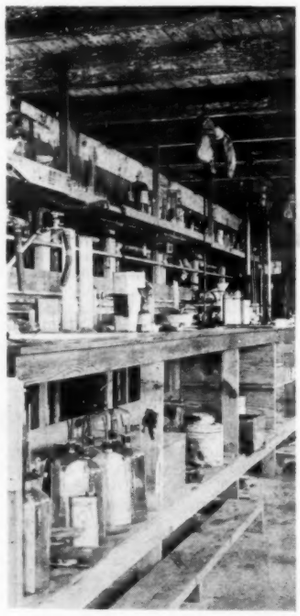
These output factors include the gas associated with the oil. To obtain the input factor it is necessary to know the gas-oil ratio. Wells already produced on gas lift in the Wilcox zone have indicated a gas-oil ratio of somewhat over 500 cubic feet per barrel; therefore, if the ratio remained constant the input ratio would be 500 cubic feet less than those shown in the table, and lifting costs would be reduced accordingly.

It is probable that the extraction of gasoline from the gas would reduce this 500 cubic feet of gas accompanying the oil from the reservoir to perhaps 350 cubic feet per barrel. The compression of 1 cubic foot per minute to 100 pounds pressure would require about 2.7 cubic feet of fuel gas per horsepower hour, or about .045 cubic foot per minute and to compress 6,000 cubic feet of gas to 100 pounds would require .045 × 6,000, or 270 cubic feet of fuel gas per barrel of oil lifted. Deducting this from 350 cubic feet, left after extraction of gasoline, would leave 80 cubic feet of gas per barrel of oil produced for other lease purposes. There would seem to be sufficient gas in the Wilcox sand for all purposes throughout the life of the field for lifting the oil even though the gas-oil ratio were to remain as low as 500 cubic feet per barrel. However, it is likely that the gas-oil ratio will gradually rise above 500 cubic feet per barrel, especially in the latter stages when it has become impossible to extract the oil without including some of the gas from the gas cap that has been forming.

The situation will be changed, however, if the Wilcox sand should eventually make a large proportion of water with the oil. In this event, the gas-lift factor based on the barrel of liquid lifted will be somewhat increased, and the factor based on the barrel of oil will be considerably increased, depending on the percentage of water associated with the oil. The Wilcox sand is probably sufficiently porous to permit water to flow through it in considerable quantity. It is not known, however, whether the supply of edgewater will be constantly renewed, and, therefore, whether the pressure will continue high, consequently the rate of edgewater encroachment cannot be estimated until more data on this subject have accumulated.

U. S. Bureau of Mines Field Laboratory Established in Oklahoma City Area

The U. S. Bureau of Mines, Experimental Station, Bartlesville, Okla., has, through the co-operation of several oil companies, established a temporary field laboratory in the Oklahoma City Field for the purpose of examining bottom hole samples of oil and gas secured from wells in that area. This laboratory is in charge of Ben E. Lindsly, senior petroleum engineer, who is assisted by P. Grandoue,



Interior view of a portion of the Oklahoma City field solubility laboratory U. S. Bureau of Mines

assistant chemist, Bureau of Mines, and W. H. Barlow, petroleum engineer, Phillips Petroleum Co.

In a paper published in Petroleum Development and Technology, 1931, A.I.M.E., Mr. Lindsly made a preliminary report on an investigation of the Bureau of Mines regarding the solubility of natural gas in crude oil. The final report on this phase of solubility investigation will appear shortly as U. S. Bureau of Mines Technical Paper No. 554, "Solubility and Liberation of Gas from Natural Oil-Gas Solution."

The work now being done in the Oklahoma City laboratory is along somewhat similar lines, except that in the present work, bottom hole samples are obtained, whereas in previous work the results were based on well-head samples taken under pressure.

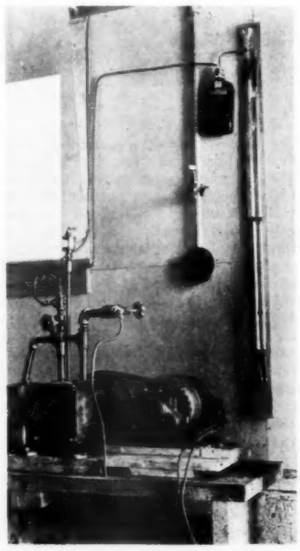
Work recently completed in a field laboratory under the supervision of Mr. Lindsly in East Texas has been published in Report of Investigations, U. S. Bureau of Mines, No. 3,212, entitled "A Study of 'Bottom Hole' Samples of East Texas Crude Oil." In this report Mr. Lindsly states:

"A study of 'bottom hole' samples follows in natural sequence the study of samples obtained under high pressure at the well heads of flowing wells. The principal object of this phase of gas-solubility research, started actively in January, 1930, was to gain a more accurate knowledge of the physical and chemical characteristics of the oil-gas mixtures that exist in natural reservoirs. In possession of actual data regarding the condition of the oil; the quantity of gas liberated from solution upon dimunition of pressure; and the relative volumetric proportions of gas to oil at various pressures as throughout the flow string in a well, it should be possible to predict, with a fair degree of accuracy, what physical changes these mixtures would undergo throughout the life of a pool. Such information not only is important in designing flow strings in flowing wells, but is important also in solving problems relating to pumping efficiency and the power required for pumping."

The work so far done by the Bureau of Mines engineers on this important problem has resulted in furnishing the industry much valuable information, relating particularly to the amount of energy that can be developed by gas dissolved in the oil. As the Oklahoma City Field is recognized as one of the large fields from which much oil is still to be secured it is believed that this study of bottom hole samples will be of much benefit to the operators there in planning their production programs to follow after natural flowing ceases.

The laboratory is located on the Berg farm in Section 26 in the south end of the Oklahoma City Field. Guided by previous experience in fitting up other field laboratories for similar work, Mr. Lindsly and his assistants have added many refinements to the Oklahoma City plant.

Instead of having to recharge several pressure samples into small bombs when determining the pressure-volume relationship of gas-saturated crude oil, as done in the East Texas laboratory, it was found convenient to make pressure-volume determinations with only one small sample. This sample is allowed to expand successively into each of several expansion chambers, which are connected in series. A tall vertical bath has been constructed, into which the whole assembly, including sample bomb and several expansion chambers may be submerged all at one time.



Vacuum pump set-up with an "Old King Cole" separator in field laboratory of U. S. Bureau of Mines, Oklahoma City pool

The hot water in this bath is kept at constant temperature by a delicate thermostat developed by Bureau of Mines engineers. Means are provided by which the bath can be shaken while the smaller samples are being drawn off to insure complete mixture of gas and oil throughout the process of testing.

Funds for carrying on this work have been subscribed by various oil companies, but the laboratory is open to all operators in that area and the engineers in charge are planning to secure samples from various representative type wells. They have extended invitations to all operators to co-operate with them, hoping to secure as complete data upon underground conditions in this field as possible.

Operators in Oklahoma City Field Are Engaged in Running Tubing and Installing Compressors

By L. G. E. BIGNELL
Petroleum Engineering Editor

According to report prepared on August 21 there were 188 wells in the Wilcox, Simpson below Wilcox and Fault Line zones in Oklahoma City Field produced by gas lift. There were also 48 wells in the Siliceous lime zone on gas lift but as those wells make large quantities of salt water the proration committee has permitted them to be produced unrestricted. The August 21 report shows that there were 410 wells in the prorated zones tubed and in addition to the 188 on gas lift 8 were being pumped while 214 of the tubed wells flowed naturally.

It is estimated that about 100 compressor units are at this time installed or being installed in the Oklahoma City Field. These units will be used to compress the gas for both kick-off and flowing operation of the various wells. Many wells that are now tubed will flow by natural formation pressure if they are started by the injection of gas under pressures ranging from 300 to 750 pounds per square inch.

Many of the wells producing from the Johnson sand of the lower Simpson formation are now on gas lift. These wells have been produced largely with gas from the Wilcox zone wells that has been passed through natural gasoline plants and then repressured for gas lift purposes. This condition will change now that the Corporation Commission has issued an order prohibiting the transfer of gas from one formation to gas lift wells producing from another formation. This ruling will become effective September 1 and it is anticipated that it will create a demand for additional compressors.

Wells in the lower Simpson zone are now produced by gas lift at pressures from 600 to 800 pounds per square inch. Many of the tubing strings are equipped with kick-off couplings to lower starting pressures and the wells put on production with pressures not exceeding 800 pounds per square inch.

The report dated August 21 shows 137 wells in the Wilcox sand zone are tubed. Many of these wells are produced by the formation pressure after kick-off and others must have gas lift applied to recover their allowable of oil. It is reported that the formation pressure in the Wilcox sand is about 900 pounds per square inch and it has been found that these wells cease to flow naturally with bottom hole pressures of 700 pounds. The fluid level in the Wilcox sand wells is from 2,100 to 2,400 feet below the surface and with the average depth of wells about 6,400 feet this will create a fluid column from 4,000 to 4,300 feet high.

There are about 48 wells in the Siliceous lime zone that are produced at an unrestricted rate by gas lift. These wells all make a considerable quantity of water. About 57 of them have been plugged and are now producing gas from the Pennsylvanian formations. One well in this zone is reported as being pumped.

In the Fault Line zone there are five producing wells and three of them are pumped and the other two flowing naturally.

Compressor Installations

In general compressor stations may be divided into three classes. One type plant takes gas from the oil-gas separators at a few pounds above atmospheric pressure and by three-stage compression raises the pressure to 750 pounds per square inch. In such plants it is usual practice to strip the gas of its gasoline contents at about 300 pounds pressure and then compress the stripped gas to the 750-pound stage. This is a standard recycling job.

Another type of plant uses two-stage compressors taking gas at from 20 to 30 pounds intake pressure and raising it to 600 or 750 pounds discharge pressure. In this second type plant it is usual practice to take the gas from the lower Simpson or Wilcox wells and after stripping the gasoline from it to return the residue to the original producers for use in gas lift.

The third type of plant contracts dry gas from natural gasoline plants for delivery to the compressors at from 300 to 350 pounds intake pressure and compresses it up to 600 or 750 pounds pressure for gas lift purposes. Such plants are located on leases where the gas is contracted to natural gasoline plants for treatment and only a portion of this gas returned for gas lift purposes.

One company operating natural gasoline plants having a combined capacity of about 130,000,000 feet daily has made contracts with Wilcox sand well owners to take the gas from their gas-oil separators and strip it of its gasoline contents and return the residue gas to the original producers at from 20 to 300 pounds gauge pressure at their compressor plant or well.

The compressors recently installed in Oklahoma City Field plants are for the most part driven by direct connected gas engines, although there are quite a number of electric driven units installed or to be installed. It is reported that one company will install 20 electric motor 100 horsepower compressors of the 10x 4½x10-inch size in two plants to be located in the north end of the field. These compressors are designed to take gas at about atmospheric pressures and compress it to 500 pounds discharge pressure.

Another company already has five electric motor driven units installed two of them being 100 horsepower capacity and three of the 75 horsepower size. Another company has been operating eight 75 horsepower electric compressors for some time for gas lift in the Arbuckle lime zone.

It is estimated that there are about 75 gas driven compressor units installed or being installed immediately in the Oklahoma City Field. One popular unit is of the opposed type rated at 230 horsepower and designed for pressures up to 1,200 or 1,500 pounds per square inch. These units have 17x20-inch power cylinders with 16 or 8 to 5 and 5½-inch gas cylinders.

Future Activities

The larger companies with three or more wells will probably install compression plants to suit their particular requirements. There are, however, a great many operators with only one or two wells who will probably rely upon gas secured from community compressor plants. The suggestion has been made that this procedure may solve many problems that will confront the individual operator and the community plants may be organized and financed by separate companies not connected with the production of oil in this field or a group of operators may form an operating company of their own, employing a consulting engineer to work out the details of the installation and approved methods.

In this connection it may be pointed out that since the days of the Seminole Field boom there have been a great many improvements made in gas lift practice. The surface equipment has been designed to suit the conditions peculiar to oil well gas lift conditions and much higher efficiencies may be secured. While Oklahoma City wells are much deeper than those in Seminole district there are no special problems involved in applying gas lift to Oklahoma City wells. Manufacturers of compressors all maintain competent engineering departments for working out designs of plants and there are also a number of experienced consulting engineers available who can render valuable service to owners of wells who do not have engineering staffs.

Raymond M. Carr, engineer, Sinclair Prairie Oil & Gas Co., Tulsa, briefly outlined improved modern production methods in a paper presented before the A.P.I. meeting held in Wichita, Kans., last February. This paper was published in the February 23 issue of The Oil and Gas Journal, and indicates the progress that has been made in production methods in recent years.

It is estimated that such lifting devices can be operated with pressures not exceeding those now required for gas lift operations and upon gas-oil ratios of not to exceed 1,500 feet per barrel of fluid lifted. It is also possible to maintain any desired back pressure upon the sand and continue the units in operation until formation pressures drop to as low as 200 to 250 pounds per square inch. The design of the flow string will have much to do with producing from 6,400-foot wells with those low formation pressures but there is available ample data on operating conditions to permit experienced engineers to outline this type of plant and supervise its installation and operation so that high efficiency can be maintained through the remaining producing life of the wells.

PRODUCTION METHODS ON OKLAHOMA CITY WELLS, AUGUST 21, 1933

Company—	Wells	Natural flow through tubing: Gas lift	Natural flow through tubing: Pumped	Flowing natural through casing
I. T. I. O. Co.	281	83	68	3	127
Phillips Pet. Co.	111	2	42	0	67
T. B. Slick estate	120	18	46	0	56
Anderson-Prichard	31	3	7	0	21
Wilcox Oil & Gas Co.	12	0	3	2	7
Wirt Franklin	37	22	2	0	13
Cromwell-Franklin	23	18	0	0	5
Sinclair Prairie	59	23	16	0	20
Coline	26	7	3	0	16
Champlin	12	0	4	0	8
Continental Oil Co.	12	0	3	3	6
Argood Oil & Gas Co.	1	0	1	0	0
J. C. Shaffer	8	1	2	0	5
Russell Pet. Co.	2	0	1	0	1
Ocate	3	0	1	0	2
Mid-Kansas Oil & Gas Co.	4	0	1	0	3
Blackwell Oil & Gas	5	1	1	0	3
Wrightsman	2	1	0	0	1
Oklahoma City Ref.	2	0	2	0	0
American O. & R.	2	0	1	0	1
Plains Pet. Co.	2	1	0	0	1
Mid-Texas	2	0	1	0	1
Kedberg Oil & Gas	1	1	0	0	0
Scott & Co.	1	1	0	0	0
Denver P. & R.	9	0	3	0	6
British-American	9	1	2	0	6
Hall & Briscoe	2	0	1	0	1
Blackstock & Mabee	4	1	1	0	2
Shell Pet. Corp.	6	2	0	0	4
C. C. Julian (J. W. Harreld, rec.)	3	2	1	0	0
Reynolds-Unruh	1	0	1	0	0
	793	188	214	8	383
Total wells in Wilcox, Simpson and Fault Line	905				495

Note—This report covers a total of 410 prorated wells in the Wilcox, Simpson below Wilcox and Fault Line zones. Siliceous lime wells are permitted to produce unrestricted and are not covered by the report.

This first column lists all wells owned by the companies covered by the report, but there are an additional 112 wells in these zones not reported. They are flowing natural through casing at this time and added to the 383 wells reported in the last column indicate that 495 wells are still to be tubed in the Oklahoma City Field.

Of the wells tubed August 21, 188 were on gas lift and 214 flowing natural through tubing, with eight on the pump. This indicates that 709 wells are still to be placed upon some form of mechanical lift in the Oklahoma City Field.

Where City and Oil Field Meet in Oklahoma City Area

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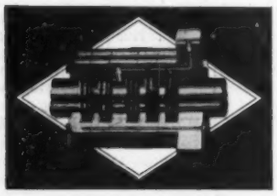

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Steel Rig Fronts and Special Pumping Units to Have Definite Place in Oklahoma City Pool

By L. G. E. BIGNELL
Petroleum Engineering Editor

Pumping wells 6,500 feet deep such as those in the Oklahoma City Field present many problems for the production men and the engineers but it has been done quite successfully and it is quite probable that as the daily production from these wells declines it will be found more economical than other methods. Reports indicate that 34 wells in the Wilcox sand are now on the pump, also two in the lower Simpson and one in the Arbuckle lime. Only a few of these wells now actually lift the fluid from the bottom of the hole. Agitation by the movement of the rods and traveling valves releases gas from the solution and assists the wells to flow.

It has been estimated by one company that 20 per cent of its wells will be on beam pumping during 1934. There are many conditions that will influence the time of installation of pumping units, many of them still unknown and dependent upon future allowables assigned to Oklahoma City wells. It has been determined by observations in other fields that the practical limit of sucker rod pump displacement is dependent upon the depth of the well. Wells 3,000 feet will make about 700 bbls. per day on the pump, while wells 6,500 feet deep will produce 200 bbls. and at 7,800 feet 100 bbls. daily seems to be the practical limit. It would, therefore, seem that when Oklahoma City wells have reached the economical limits of about 200 bbls. daily they can well be put on beam pumping.

For this type of production practice there are available the heavy steel rig fronts with 24-inch 100-pound "I" beam walking beams good for working loads of 45,000 pounds and operated through 6-inch rig irons with long stroke cranks giving variation in stroke up to 72 inches. For such units 12-foot bandwheels are usually installed and driven direct from the pulley on the gas engine. If motor is used it may be necessary to use countershaft to reduce speed.

It has been found that for this type unit a 25-horsepower gas engine of the oil field type is large enough to do the pumping and the pulling of rods and tubing and cleanout work can be done by portable units. With the 25-horsepower gas engine it will be found that the overall efficiency is relatively higher than it would be if 70-horsepower gas engine was installed to provide ample power for pulling rods and tubing and for other work at the well.

The same general principles will apply if electric motor is used for pumping. It will be more economical to install a 25-horsepower motor for the actual pumping duty and use portable equipment for the other work. If the well is a heavy producer of water it may be that it will be best to install 40-horsepower power units, but that is a condition that must be worked out for the individual well, and it is not anticipated that a great many wells will require the large power unit if the balance of the equipment is carefully selected.

Pumping Units

There is one condition that is very favorable for the Oklahoma City producer. During the period of slack sales most manufacturers of pumping equipment have taken occasion to improve design of their units. They have all been very keen for new business and have therefore made special attempts to develop units that will have greater economy of operation. These units have long since passed the experimental stage and have been in successful use in many fields so that actual performance data are now available.

Hallan N. Marsh, production engineer, General Petroleum Corp., Los Angeles, Calif., in a paper presented before the London World Petroleum Congress in July, points out the development in pumping wells and as he has had considerable personal experience in pumping deep wells in California his conclusions should be of interest to Oklahoma City operators.

Quoting from his paper he states that, "Power efficiency is improved automatically by increased volumetric efficiency. It is also highly dependent upon the type of pumping machinery used. Some types of machines are inherently more efficient than others and a small machine heavily loaded is usually more efficient than a larger machine underloaded. Like other machinery, efficiency increases with load up to about the normal load of the machine. Comparisons of power efficiency of pumping machinery, therefore, can be made only with reference to the power throughput. A small machine on a small well may give 30 per cent power efficiency (wires to polish rod) while a larger machine may give 60 per cent efficiency on a bigger well. However, if the larger machine were put on the light well, it might develop only 20 per cent efficiency and, therefore, be less efficient than the small machine for that well."

With this general principle in mind the Oklahoma City operator will find that it will pay him to make careful investigation of pumping units to determine the best type to install, all things considered. While the gas lift may be suitable and efficient for the first period of mechanical production it may be found upon careful investigation that if the full period of mechanical production is considered the overall efficiency and cost of production with pumping units may be best.

There are on the market now individual units driven by both gas engines and electric motors that are so designed as to give variable length of pumping

PLUNGER STROKE FOR OIL WELL PUMPS

FUNDAMENTAL FORMULA

Theoretical loss of stroke due to ROD and TUBING STRETCH (neglecting counterbalance)

STRETCH = $\frac{\text{DEPTH} \times \text{LOAD CHANGE}}{\text{ELASTICITY} \times \text{AREA}}$

UNIFORM STRING

$S = D^2 \times p \times A_p \times C$

GRADED STRING

$S = D \times p \times A_p \times \Sigma(d \times C)$

Where S = Stretch of Rod + Tubing, inches
D = Depth in ft ÷ 1000
E = Mod. of Elasticity = 29,000,000
p = Pressure, lb./sq. in./ft. depth (See Table "B")
A_p = Total area plunger, sq. in. TABLE "C"
A_r = Cross-sectional area Rod, sq. in.
A_T = Cross-sectional area metal in Tubing, sq. in.
d = Depth in ft ÷ 1000 for any uniform section
$C = \frac{12 \times 1000 \times 1000}{E} \times \left(\frac{1}{A_R} + \frac{1}{A_T}\right)$
See TABLE "A"

TABLE "A"

C for Rod and Tubing Stretch			
ROD SIZE	2" TUBING	2½" TUBING	3" TUBING
⅝"	1.664	1.575	1.507
¾"	1.254	1.163	1.096
⅞"	—	0.914	0.847

THEORETICAL GAIN IN PLGR. STROKE DUE TO ACCELERATION (COBERLY)

$G = \frac{(33.3 \text{ lb} \times D \times SPM)^2}{188000}$

Where G = Gain in stroke, inches.
S_p = polish rod stroke, inches.
SPM = Strokes per minute

WEIGHT OF OIL
LBS. PER SQ. IN. PER FT.

°API	LBS./SQ. IN./FT.	°API	LBS./SQ. IN./FT.
10	.4326	30	.3790
11	.4296	31	.3766
12	.4265	32	.3743
13	.4237	33	.3721
14	.4207	34	.3698
15	.4178	35	.3675
16	.4150	36	.3654
17	.4122	37	.3632
18	.4094	38	.3611
19	.4067	39	.3590
20	.4040	40	.3569
21	.4014	41	.3548
22	.3987	42	.3527
23	.3962	43	.3507
24	.3936	44	.3487
25	.3911	45	.3467
26	.3886	46	.3448
27	.3861	47	.3428
28	.3837	48	.3409
29	.3813	49	.3390

TABLE "B"

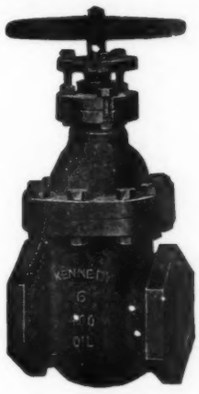
DATA ON OIL WELL PUMPS

NOMINAL SIZE TYPE	EFFECTIVE DIAMETER	NET AREA OF FLUID No. Rods	A_p TOTAL AREA	K
API LINER				
2" L	1¾	1.964	2.405	.357
2½" L	2⅛	3.534	3.976	.590
3" L	2⅜	5.498	3.940	.882
AXELSON INSERT				
2 L	1⅝	.496	.887	.1316
2 T	1½	1.325	1.767	.262
2½ L	1½	1.325	1.767	.262
2½ T	1⅞	1.964	2.405	.357
3 L	1⅞	1.964	2.905	.357
3 T	2⅛	3.534	3.976	.590
OTB INSERT				
2 L	1	.894	.786	.1168
2 T	1 7/16	1.181	1.623	.241
2½ L				
2½ T	1 13/16	2.507	2.948	.438
3 L				
3 T	2 7/16	4.225	4.666	.693
ECONOMY				
2 T	1½	1.325	1.767	.262
2½ T	1 13/16	2.507	2.948	.438
3 T	2 7/16	4.225	4.666	.693
FLUID PACK — HOFCO				
2 T	1½	1.325	1.767	.262
2½ T	2	2.700	3.142	.466
3 T	2½	4.067	4.909	.729
O'BANNON				
2 T	1½	1.325	1.767	.262
2½ T	1 29/32	2.050	2.492	.307
3 T	2⅞	3.988	4.430	.658
SARGENT INSERT				
2 L	1	.894	.785	.1166
2 T	1½	1.325	1.767	262
2½ L	1½	1.325	1.767	262
2½ T	2	2.700	3.142	466
3 L				
3 T	2½	4.067	4.909	729

TABLE "C"

PUMP DISPLACEMENT = $S \times SPM \times K$ in bbl/d
Where S = Stroke in in., SPM = Strokes/minute
K from table or .1166 × (Plunger diam)²

Specially Designed for Oil Service



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Their heavy proportions, sound, strong metal, large disc-seating surfaces, unobstructed full opening, provisions for maintaining position of seat rings, gaskets, and packing, and perfect seating of disc are some of the features that assure efficient, trouble-free operation.

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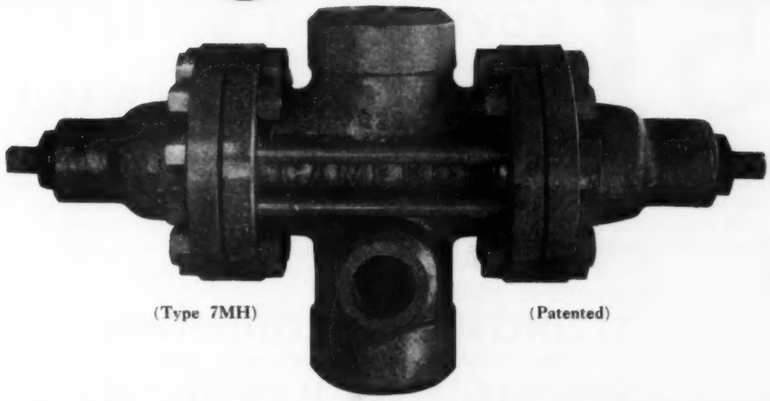

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For safety, complete control, economy, protection, and well insurance use

Cameron's Type 7MH Manually Operated preventer protects the well under all conditions when pipe, tubing, etc., are being handled through it, and then can serve as a high pressure tubing head. It is cold water tested to 6,000 pounds for 3,000 pounds working pressure. Also available in Type 7ML, 1750 pound test. Suitable for use on 6⅝" or 7" O. D. casing. Incorporates every proven feature of Cameron preventers. Indispensible for handling tubing with pressure. Furnished with flow line openings either above or below rams with equal safety. It is used by leading operators everywhere under any condition where quick, positive control over all well pressures is a necessity with tools in the hole.

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stroke from 24 inches to 10 feet. These units have connections by which straight pull on the polish rod is assured. Speed of pumping can be from 3 or 4 strokes per minute to 35 or 40 strokes as the operator may desire.

Counterbalances are part of the self-contained units and by proper adjustment of the weights and the use of dynamometers for checking very effective pump motion can be secured.

The installation of rig fronts and self-contained units should be made upon properly designed concrete foundations and each manufacturer has prepared setting drawings that give full details and if they are followed permanent installations can be made that will insure good alignment of all parts for the full life of the well.

Effeciencies

Many of the facts in Mr. Marsh's paper apply to pumping conditions in Oklahoma City and as they are timely, part of the paper is quoted here.

"In pumping well operation, maximum rate of production generally is desired. Even where curtailment is in effect, it is generally necessary to operate at maximum rate in order to demonstrate potential production, upon which allowable production is based. In the case of pumping wells, maximum rate of production generally, but not always, results in minimum gas-oil ratio.

"The effectiveness of pumping can be determined in the same manner as for gas-lift, through the measurement of subsurface pressures. With pumping wells it is necessary to install below the pump a pressure gauge that will record while the well is idle and also after normal pumping conditions are attained. This can be done with available instruments, but they are subject to sever bumping while running in or while pumping, which sometimes damages them.

"Effectiveness of pumping should be nearly 100 per cent, and sometimes is, but this cannot be assumed without testing. Adjacent wells under apparently similar conditions have shown effectiveness factors ranging from 40 to 98 per cent. Of course, where the potential capacity of the well exceeds any practical pump displacement, effectiveness is necessarily low, but generally such wells are operated by gas lift rather than pumping.

"Subsurface pressure, while pumping, can be determined without the use of bottom hole pressure gauge by the following method: Hourly gauges are taken long enough to assure that the pumping rate is uniform. Casing pressure is then increased by a small increment and held at a constant level by manual control or automatic regulators, and production rate again measured hourly. If, after several hours, no change has taken place, casing pressure is again increased and production rate noted. This process is continued until a pressure is reached at which production rate decreases (due to gas entering pump). As long as production is normal, it is known that the fluid level is above the pump, but as gas enters the pump it will immediately affect its operation (although it may take some time for this to be apparent from tank gaugings). Normal pressure while pumping is between the last casing pressure at which normal production was secured and the first pressure at which it was reduced. The point can be determined more closely by trying intermediate casing pressures.

"Correction should be made for the weight of gas in the casing, according to the following formula:

$$\text{Log}_{10}P = \frac{sz}{122.82\,T} + \log_{10} P_o$$

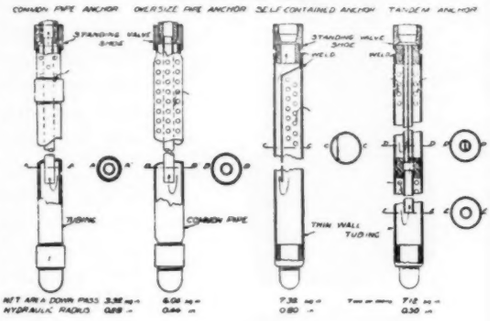
P = pressure at depth$_z$.
P_o = pressure in casing at zero depth.
s = specific gravity of gas (air = 1).
z = depth of tubing inlet in feet.
T = abs. temp. of gas, degrees Rankine.

"It may not be apparent that the pressure outside of the pump, with the fluid level depressed just to the pump, is equal to the pressure at the pump while pumping at the same rate but with a different casing pressure. However, flow into a well is dependent upon the back pressure in the well. This total pressure must remain constant as long as total production rate remains constant. What happens is that as the casing pressure is increased the fluid level is depressed, and if time is allowed for equilibrium to be reached, these two changes exactly offset each other as regards total pressure at the pump. This method assumes the pump to be above the top of the producing zones, and complications are introduced when the pump is below the highest perforations. This method is probably too slow to be very attractive ordinarily, but has the advantage of not requiring a recording subsurface pressure gauge, or that tubing be pulled once to install the gauge and again to remove it.

"The same result can be secured more rapidly with the aid of a dynamometer. The same method is followed, except that it is not necessary to wait for the changed operation of the pump, which results from forcing gas into it, to be indicated by tank gaugings. It has been found that dynamometer cards taken at intervals are generally almost identical so long as conditions do not change, but the instant fluid level is depressed to the pump and gas enters, a radical change in the shape of the dynamometer card results. Therefore, with the use of the dynamometer, one man can generally make a satisfactory determination of subsurface pressure while pumping in one working day, as compared with several days that would probably be required if reliance had to be placed upon tank gaugings to determine the critical pressure.

"Effective pump operation depends upon limitation of plunger slippage and valve and tubing leakage, exclusion of gas from pump, and adequate displacement. Slippage and leakage should be negligible if the equipment is in good condition, but occasionally become serious without being suspected unless pump and tubing are carefully inspected and maintained.

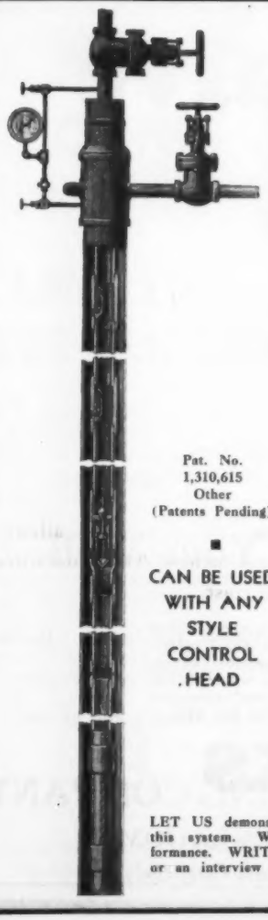
GAS ANCHORS (SEPARATORS) FOR OIL WELL PUMPS



Gas Anchors

"Gas action may be negligible or very serious, depending upon the particular conditions existing in the well. These conditions cannot be predicted. The best policy is to put on a gas 'anchor' (separator) of adequate capacity, as such a device is not expensive, can do no possible harm, and may be the key to effective pumping. Some common and improved types of gas anchors are illustrated in the accompanying cut.

"Adequate displacement should, of course, be provided, and the required



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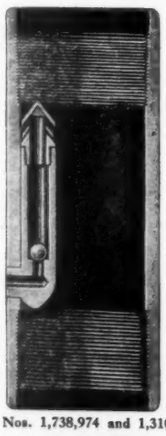

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combination of stroke, speed, and pump size can be computed by methods and tables set forth in the revised and condensed formulas and tables presented herewith. The practical limit of sucker rod pump displacement is dependent upon the depth of the well.

Volumetric Efficiency

"The study of volumetric efficiency continues to be the most profitable point of attack upon pumping problems. Increase of volumetric efficiency may result from increased effectiveness and production rate, but where effectiveness is already high, improvement of volumetric efficiency results in saving power, reducing loads on sucker rods and other equipment, and increasing pump life. The following formula has been adopted from experience as resulting in a satisfactory and attainable volumetric efficiency.

"Displace equals 1.15 times expected gross production plus 10 bbls.

"Where subsurface pressure tests or general information gives assurance that effectiveness is high, displacement should be reduced to the value determined from the above equation, with resulting increase of volumetric efficiency. If lower production should result, it is due to plunger slippage, pump or tubing leakage, or gas action, and can almost always be overcome by attention to tubing, pump, or gas action. About the only cases where it has as yet been impractical to obtain high efficiency is where the sand content of the oil results in such rapid wear of pumps that it is more economical to use excessive speed so that production can be maintained after pumps are badly worn. It is hoped that this difficulty can be overcome by the use of special pumps."

Mr. Marsh refers to a paper presented by him before the American Petroleum Institute and published in its Production Bulletin No. 207, page 47, and entitled, "High Volumetric Efficiency in Oil Well Pumping and Its Practical Results." Also a discussion of this paper in the same A.P.I. bulletin by C. J. Coberly, Mr. Marsh states that the suggested modification of Method Two in his paper proposed by Mr. Coberly provides means for computing an answer that generally checks fairly close with the test methods described, even though the well is pumping at considerable speed. Practical results and test methods indicate that actual displacement is generally a little greater than the Coberly method indicates, which is a discrepancy on the conservation side.

"An additional method has been used to some extent, and while not theoretically sound gives a reasonable answer that checks well with other methods. If a well is pumping with excessive displacement, the point at which the plunger strikes the fluid is indicated by a sharp drop in load on the dynamometer card. This impulse must travel from the plunger to the polish rod before it is measured, and the time required can be computed from the velocity of tension waves in steel (17,200 feet per second). From this time interval and the known speed of the rig, the position of the polish rod at the time the plunger actually hit the fluid can be computed. The position of the polish rod at this time indicates the volumetric efficiency.

"For example, if the polish rod has traveled 25 per cent of the downstroke when it hits the fluid, the excess displacement is 25 per cent and the volumetric efficiency (neglecting friction but including gas action as well as excess displacement) is 75 per cent. This method assumes that the plunger travels in time phase with the polish rod, which is not necessarily true but seems to be approximately so in most cases.

"Power efficiency is improved automatically by increased volumetric efficiency. It is also highly dependent upon the type of pumping machinery used. Some types of machines are inherently more efficient than others and a small machine heavily loaded is usual-

(Continued on Page 38)

Modern Cleanout Methods Available for Deep Wells

Wells in all parts of the Oklahoma City Field will probably need cleaning out at some time during their productive life. During periods of high productive rate wells in the Wilcox sand zone produced large quantities of sand, reported in some instances to equal 20 per cent of the volume of the oil produced. During those periods of production the upcurrent velocity of the fluid column was high and all fine materials were carried out of the hole.

As the rate of production declined through natural conditions or because of proration orders applied to these wells there was a tendency to carry loose sand and other material into the column of fluid in the hole but it was not all discharged and when the well was shut in after making its allowable this material settled to the bottom of the hole. It is reported that in one well the casing was filled up 2,000 feet from the bottom. It is a common condition to find 350 to 400 feet of the bottom of the hole filled with settlings.

These settlings in the Wilcox wells are composed of grains of the formation sand and are relatively free from silty material. In some wells relatively large pieces of shale have been removed in cleaning out the well but generally speaking the settlings in the bottom of the Wilcox wells are made up of materials that do not pack very hard. It is, therefore, possible for the oil to break through into the upper part of the hole and the wells continue to flow by natural formation pressure until that pressure has reached about 700 pounds per square inch.

The lower Simpson formation is composed of several stratas of shales, sands and limes. There are four producing sections in this formation, known as Green Shale sandstone, School Land sandstone, Hammer-Haindl sandstone and Johnson-Kinter sandstone. Because of the difference in hardness of these various formations it has been found that cavings will tend to pack and the shales break up into muds that lower the porosity and permeability of the material that has fallen into the bottom of the hole.

Arbuckle lime wells receive little attention because they make large amounts of water and are permitted to produce unrestricted.

Cleanout Methods

There are numerous ways in which this material can be removed from the bottom of a well but when a hole is 6,500 feet deep the problem is not a simple one and to rig up drilling equipment to do the work is both costly and takes considerable time.

One method that has given good satisfaction in California, Seminole, Oklahoma City and other fields involves the use of suction bailers. The Cavins Clean-Out Service, in charge of Arthur L. Harper, maintains an office and warehouse in the Oklahoma City Field and has cleaned over 125 wells to date. Many wells have been shot both in the lower pays and opposite upper gas sands in the casing to convert them from oil to gas wells. Cleanout is necessary after such shots in many instances and the suction bailer has been used satisfactorily for this work.

While there is a difference of opinion among operators about the need of cleaning a well that will still produce through the settlings in the hole Cavins Clean-Out Service report that they have found that wells they have cleaned have increased in production after cleaning from 30 to 1,000 per cent. In some cases the wells were bridged and shut off entirely.

When the bottom of the hole is filled with settlings it is difficult to tell whether water has broken into that portion of the formation. It has been found advantageous to clean many wells with the suction bailer to determine the facts and if water has been discovered it is

(Continued on Page 38)

CAVINS
CLEAN-OUT TOOL

Has been a "life saver" to Oklahoma Operators in re-conditioning wells. Has serviced more than 125 wells in Oklahoma City Field alone.

Has cleaned out wells in this field far more difficult than anything heretofore known in the Mid-Continent.

The "wash" that this tool creates in a well cleans out sand and grit in a superior way—which in turn saves expensive pumping equipment.

A very small amount of equipment necessary to operate. Bailing line is all that is needed.

Valuable in wet holes where shale caves retard drilling or underreaming progress in cable tool drilling.

When operators, especially Oklahoma City Field, consider cleaning out a well, they think about Cavins Cleanout Service and methods.

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Guaranteed to flow your well regardless of depth or size, with less valves than is possible with any other type, at lower pressures. Less Gas or Air per Barrel.

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Sand—Oil—Water or Shale do not pass thru Bryan Flow Valves. No obstruction in tubing.

No Springs—Slides or Sleeves to stick and break.

Our Portable Compressors will demonstrate the Bryan Flow System on your well. Call us for this demonstration—there is no charge for this service.

Bryan Flow Valve Installations are permanent. At a Guaranteed lower cost.

Our claims are drastic. But we are behind them.

Write for details and prices.

GAS LIFT ENGINEERING COMPANY
OKLAHOMA CITY, OKLAHOMA

System of Power Lines Will Make Electricity Available to All Oklahoma City Operators

Operators in the Oklahoma City Field will soon be facing the problem of providing some form of mechanical power for producing the fluid from their wells. Power, as defined in Kent's Mechanical Engineers Handbook, is the rate at which work is done, and is expressed by the quotient of the work divided by the time in which it is done. Energy, or stored work, is the capacity for performing work. It is measured by the same unit as work, that is, foot-pounds. In the oil fields only two forms of energy are usually considered for producing oil, that derived from the combustion of gas or oil and electric power.

Because of the fact that oil and gas are products of the well it has been quite common practice in the oil fields to regard these elements as sources for fuel for producing energy as free. But every oil producer knows that the commodities he has to sell are crude oil and natural gas, so they must have some market value. It therefore seems wrong to disregard the intrinsic value of the products of an oil well in making estimates of power costs.

Use of Natural Gas

The gas that accompanies the oil in the formation does work in driving the oil to the well. While there was excess gas present it was also practical to use this gas for lifting the oil to surface. Under the existing conditions with the remaining gas reduced to a relatively small quantity it is probable that the use of electric power for lifting will be found profitable. It has been estimated that approximately one-eighth of the total volume of gas compressed will be required for the power end of the compressor.

Electric Power

At this time there are many operators in the Oklahoma City Field who are considering the installation of compressor stations and if they will give thought to the above conditions it is quite apparent that they should also give careful consideration to the use of purchased electric power for driving their compressors or electric motors to be used for beam pumping or other methods of recovering the remaining oil by mechanical means.

In selecting the type of prime mover to drive the gas-lift compressors, it is necessary to determine "running time factor" of such equipment, or time element of operation required to produce the fluid. Many operators compute costs of compressing gas by the empirical method of assuming that gas compressed from atmospheric pressure or 50 pounds to 500 pounds will cost 6, 8 or 10 cents per 1,000 feet, and use such costs in their estimates, without regard to the time element.

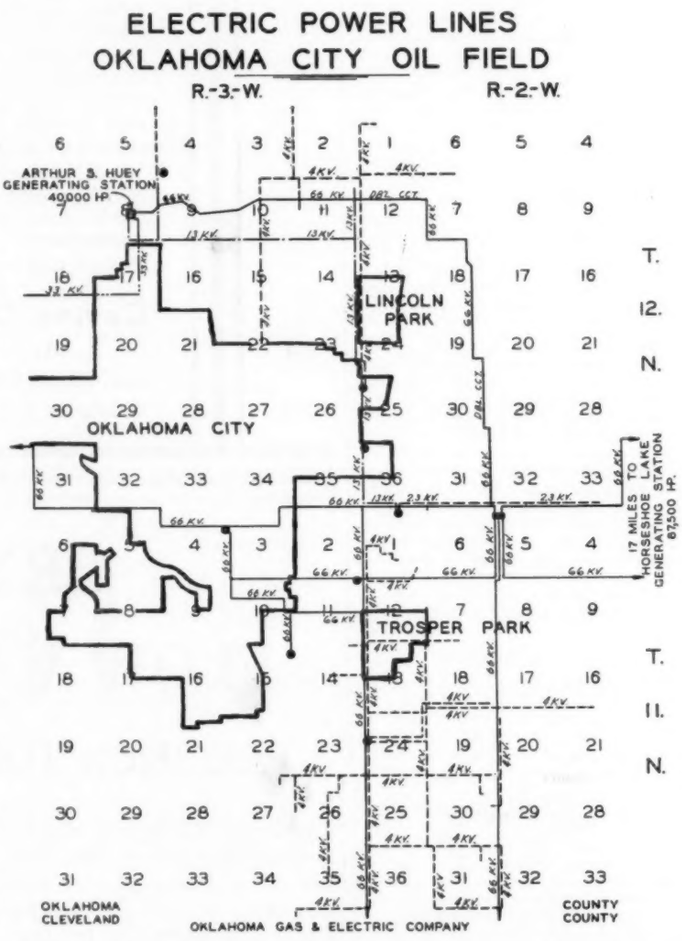
Power plant engineers base their estimates of costs upon "load factors" which to the production man would mean "running time." Either term may be used to express a ratio between the maximum amount of gas possible to compress if the plant operates continuously and the actual amount of gas required to be compressed during each 24-hour period or for 30 days or one year.

Reliable estimates of "running time" under present prorated condition of the Oklahoma City Field for wells in the Wilcox zone indicates that the average time required to produce the oil will be from two hours per day during the first year to 20 hours per day during the latter part of the gas-lift period or four years from now. This estimate would make the average "load factor" about 40 per cent or the "running time" about 10 hours per day average over the total period of time during which gas lift is used.

In considering electric-driven compressors it is well to make plans for means of securing that oil that remains in the formation after the normal gas-lift period of production has been completed. It was found in Seminole that there came a time when it was more economical to produce the oil or oil and water by other than the gas-lift methods. Since Seminole days many improvements have been made in producing equipment and there are many types of apparatus now upon the market, fully proven, that can be used to produce the fluid from the wells and still utilize compressed air or gas for operating the compressors to produce these wells during the gas-lift period and then by the simple change in equipment to still continue to use this compressor plant to deliver compressed gas for operating the units needed to secure the balance of the fluid.

Submerged Pumps

The centrifugal type electric-motor-driven submerged pump has been devoloped to suit Oklahoma City deep well conditions. This pump is also made in a reciprocating submerged type driven by



Electric power lines in the system of the Oklahoma Gas and Electric Company in the Oklahoma City field. Numbers indicate the centers of sections

moving parts. Displacement pumps of several types are now giving good service in many fields. Plunger lifts operated by gas pressure have been used in Oklahoma City wells. Pneumatic cylinder lifts are now in successful use in Oilton Field, and Seminole district, Oklahoma, as well as in Van and East Texas Fields, Texas.

Portable motor-driven compressors will also find a place in the Oklahoma City Field, especially in the north end where city ordinances limit the working pressures in lines that pass through the residence district. Electric power lines are available in this district to provide ample power for all pumping operations and the power may be delivered to the electric motors through steel-armored flexible cable and conform fully to city ordinances covering electric installations.

Considering this general proposition it will be found quite practical to install the same type motor as used in the centrifugal pump.

Centrifugal submerged pumps having a capacity of about 40 bbls. per hour or 30 gallons a minute, and using a 100-stage deep-well pump driven by 125-horsepower motor, has already been tested in an Oklahoma City well. The overall efficiency of a pump of this type is reported as 40 per cent, and with purchased electric power at an average cost of 1 cent per kilowatt hour the cost of fluid lifted will be approximately one-half cent per barrel. Pump rental charges and operating labor will increase this cost to about 5 cents per barrel for fluid lifted from a 6,000-foot well.

With the compressor plant installed it is a simple matter to hang the Sullivan pneumatic cylinder in the derrick and operate it with the compressed gas. This equipment has been fully described in an article published in The Oil and Gas Journal October 13, 1932, page 10, and its performance in the field described in an article by H. B. Thomson in the June 22, 1933, issue of The Oil and Gas Journal. It offers a simple means of lifting fluid by the use of rods and working barrel. It is estimated that using electric power for driving the compressor this this pump will lift fluid in Oklahoma City wells at a cost of about 8 cents per barrel when operating 10 or 12 hours daily.

Displacement Pumps

There are now several types of displacement pumps that can be placed in the well and operated by compressed air or gas delivered through a macaroni string of tubing to the power unit, or forced down in the annular space between tubing and casing and released into the power unit by specially arranged valves at the bottom of the well.

These units offer opportunity to the Oklahoma City operator to continue to utilize his compressor plant to good advantage even when the gas-lift period of production has passed. The cost of such pumping will be determined by the cost of compressing the gas.

The Hughes plunger lift, applicable to pumping conditions in Oklahoma City wells, was fully described in an article by H. W. Fletcher in The Oil and Gas Journal of January 28, 1932. This lift can be operated by gas at formation pressure or by compressed gas delivered to the bottom of the well in the annular space between tubing and casing.

It is quite probable that many wells in the Oklahoma City Field will be pumped by standard rigs with steel walking beam, rods and working barrels. Power for driving such units may be either gas engines or electric motors. Before installations of such units are made it will be well for the well owners to give serious consideration to the use of electric power because where this is used for pumping only and the clean-out work is done by portable units it will be found to compare favorably in costs with other types of power.

Summary

Because of the excessive use of gas in producing wells by natural flow in the past it is now recognized by all familiar with the field that there is only a limited supply still available for future production. The gas remaining in the formations can best be utilized to drive the oil to the bottom of the hole and mechanical means applied for lifting the fluid to the surface.

The remaining gas will have a definite sales value and looking ahead a few years it is quite probable that this value will be such as to make the use of electric power compare favorably with gas-engine power. It therefore behooves the operator to give consideration now, before he buys his equipment, to this ultimate condition rather than to accept, without investigation, the theory that he will always have ample low-priced gas available for power purposes.

The Oklahoma Gas & Electric Co. has power lines serving all parts of the Oklahoma City Field and their sales engineers are willing at any time to discuss these problems with the operators in that field and submit complete estimates and data upon the use of electric power for all purposes. It is recognized that there are many factors that will enter into the final decision, but it will be well to consider the use of electric power before capital investments are made and eliminate the possibility that they may later have to be discarded because of changing conditions within the producing zones.

FREMONT

"SEALING PLUG"

VALVES

for

HIGH AND LOW PRESSURE

FREMONT'S new "Sealing Plug" is the most revolutionary improvement in valves in the last 25 years.

This valve is especially designed to offset the difficulties which have arisen with deep well drilling, high pressure service and bad sand-cutting conditions.

"SEALING PLUG"

The Fremont Valve is famous for its "SEALING PLUG." The greater the pressure gets the tighter this plug seals. The "Sealing Plug" fits transversely into the piston, forming part of the flow-line and its ends are made to conform with the walls of the cylinder, so that when it is turned lengthwise with the flow-line one of its ends butts tightly against the cylinder. Thus all pressure is sealed off by the line pressure exerted against its opposite end. The "Sealing Plug" also acts as a shear, cutting off all fibrous matter, sand, mud, etc., as it is turned around.

USED BY THE LEADERS

Among the leading oil companies and others who use Fremont Valves are Texas Company, Humble Oil and Refining, Magnolia Petroleum, Continental Oil Co., Slick-Urshel, Pioneer Drilling Co., and scores of others.

A RECORD PERFORMANCE

A Fremont Valve has the unique distinction of holding a world valve record for performance. This record was made by the Texas Carbon Industries, Inc., Sayre, Oklahoma. Here is what they say:

"Our records show that this valve was in service somewhat over 18 months and during that time it was re-packed and cleaned once and at the time it was taken out of service it was in excellent condition.

"The valve was opened and closed in excess of 600,000 times and the service on which it was used was a high pressure water line leading to a hydraulic press and the pressure on the line varied from 0 to 750 pounds."

These FEATURES
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1. Quarter-turn, Quick-Opening and Closing Gate Valve.
2. Only "SEALING PLUG", pressure sealed Valve to be had.
3. Has same size and shape FLOW-HOLE as the pipe used.
4. Will not cut out on sand, mud, etc. Shears off fibrous matter.
5. Easily opened and closed. Pressure equalizes itself by piston.
6. Has Metal to Metal seal. No special lubricant required.
7. Has no exposed "seats" to cut out while on flow-line.
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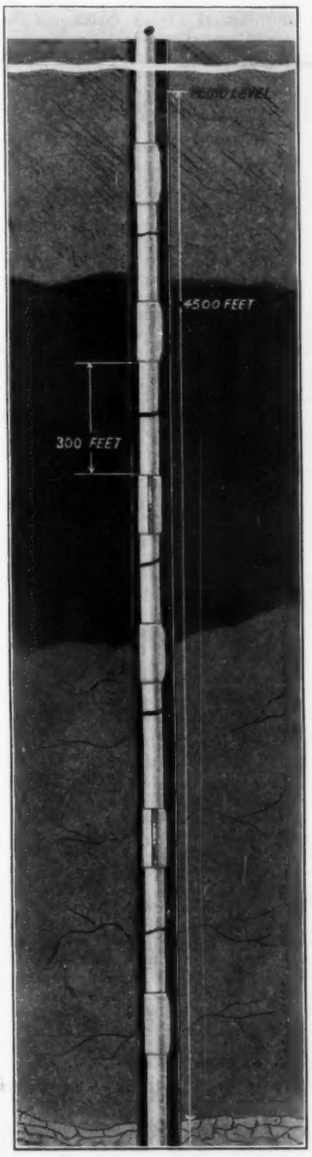
9. Has great strength. Almost solid construction of metal.
10. Very simple. Has only two moving parts. Five parts in all.
11. Has inside stop-control for proper opening and closing.
12. Parts may be metalized to prevent corrosion, etc.
13. Proven on Air, Gas, Steam, Gasoline, Water, Oil, Mud, etc.
14. Improves with use. "Sealing Plug" wears in its own seats.

Don't put up with out-of-date valves—use Fremont "Sealing Plug" Valve—it will save you time, money and trouble. Write for our folder describing these valves and prices.

FREMONT VALVE WORKS

Oklahoma City, Oklahoma

CONSERVATIVE OPERATION with P & T KICK-OFF UNITS



Cut shows installation of units in well

P & T Kick-Off Units will enable operators to produce oil at a lower cost per barrel.

1. LOW FIRST COST OF UNITS.
2. ELIMINATION OF HIGH STAGE COMPRESSORS and EXPENSIVE EQUIPMENT.
3. START ANY WELL WITH LOW PRESSURE.
4. AVERAGE KICK-OFF TIME 20 MINUTES.
5. POSITIVE SAFETY TO WELL and OPERATORS.

The most economical, safe and quickest way to bring in a new well is with P & T KICK-OFF UNITS. Their use eliminates the necessity of swabbing or bailing. Any well that must be produced by air or gas lift should be equipped with P & T KICK-OFF UNITS.

For your own assurance investigate the possibilities of P & T Units on your wells.

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Oklahoma Warehouse and Office
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Price - Trawick Inc.

STROUD OKLAHOMA

Use of Kick-Off Couplings in Deep Gas-Lift Oil Wells

When air lift was first applied to the wells in Seminole a lot of trouble was experienced in starting them to flow by this method. The starting pressures were often greatly in excess of flowing pressures and in many instances compressors had been selected for but little over the flowing pressure capacity and when inexperienced operators tried to force air into the well to start it flowing the pressure was built up so high in the cylinders that heads were blown out or pipe lines failed.

While these accidents were exceptional, the condition that caused them has long been recognized as one presenting a problem to the compressor plant operator, and it has been largely solved by the use of devices attached to the tubing known as "kick-off" collars or couplings. There are several designs of these kick-off collars on the market, but they all work upon much the same basic principles, although the mechanical details vary widely.

In flowing a well by gas or air it is necessary to inject high pressure gas either into the tubing and flow the fluid out of the hole in the annular space between the tubing and casing, or to force the gas down in the annular space and flow the fluid out of the tubing. In either event it is necessary to depress the top of the fluid level in the well to near the bottom of the string of tubing. As the tubing is usually set close to the bottom of the hole and especially during the early productive period on gas lift the fluid level is high the pressure required to depress the fluid to start the well to flowing by gas lift may be very high.

Compressors are made that will take care of this condition and this is one way in which the wells have been started flowing. By installing one or more high-pressure compressors for kick-off purposes wells can be started and then switched to lower pressure units for the flowing period. Such an installation involves the capital investment in additional compressor units and also in manifolds and high-pressure lines on the surface.

The use of the kick-off couplings eliminates the need of building up high pressures to start the well. It is usual practice to first determine the fluid level of the well to be tubed and then place the upper kick-off collar on the tubing in a position so that it will be from 300 to 400 feet below the top of the fluid in the hole. Other collars are spaced on the tubing at 300 or 400-foot intervals to the bottom of the string of tubing.

The kick-off collars are made for all sizes of tubing. They take the place of the usual coupling in the string and are inserted in the same manner as couplings.

In the body of the kick-off coupling there is a valve so placed as to permit flow of gas or air through it in only one direction. If it is desired to start the well by forcing gas down in the annular space between tubing and casing, the valve selected will open into the tubing when the pressure in this annular space is greater than the pressure inside the string of tubing.

In this way the compressed gas will pass down to the fluid level and depress it to a point opposite the first kick-off coupling when it will find relief into the interior of the tubing and aerate the column of fluid there and flow the upper portion of it to the surface. This will lighten the weight of the fluid column by whatever depth of fluid is in the hole above the first coupling. By continuing this process of lowering the fluid level to the succeeding kick-off couplings lower down on the string the whole column of fluid is set in motion. In effect the well has been cut up into short sections for production purposes and each section started flowing at relatively low pressures.

After flow is started in the flow column the valves automatically close because the pressure on the flow side is higher than the inlet pressure created in the gas-flow portion of the well. It has been found in many instances that wells could be kicked of and flowed by natural casinghead gas pressure from adjacent wells, but this period of high pressures has about passed in Oklahoma City and wells will be operated by compressed gas in the future.

No special tools are needed to install kick-off couplings in the tubing strings and they do not require special attention after they are run in the well. Special metal is used in the construction of the kick-off valves and parts to combat corrosion and under usual conditions it has been found these couplings give long and satisfactory service. They are quite commonly used in tubing Oklahoma City wells and several changing conditions indicate that there will be additional reasons for using them in the future.

Effect of Past Practices Apparent in City Field

(Continued from Page 24)

somewhere between —5,360 and —5,340 feet sea level datum. The water is moving up vertically as well as moving laterally to the east if considered as a whole. In some wells it has tended to cone and is higher than the common level.

Vertical movement of the water table would in time bring the level up into the base of the Wilcox, but as this sand is about 200 feet thick in the north end of the field and the base of the formation has very slight west dip the flooding action of this water would then tend to be lateral and consequently the repressuring effect would diminish. This may also be the reason for lack of recharging of the upper Wilcox sand with fresh oil.

It is also quite apparent that an excessive amount of gas has been produced from the Wilcox sand with the oil. As this gas occupied about 30 per cent of the space in this sand the withdrawal of large volumes of it has depleted a large amount of space in the upper part of the sand of oil and this space is now occupied by gas only. This gas cap is estimated as being from 50 to 60 feet in thickness. This would mean that the top of the oil is much lower than originally in the Wilcox formation and may account for the low pressure now existing in that formation.

Future Production

The problems confronting producers in the Oklahoma City Field are those that have to do with recovering the remaining oil and conserving gas energy. The status of the field as of August 21 is shown in the accompanying table, and recapitulation.

This information indicates that there are still about 500 wells to be tubed and 700 placed upon some form of mechanical lift in the Lower Simpson and Wilcox zones. All the wells in the Arbuckle zone are now being produced on gas lift.

If cleaning the bottom of the hole does not improve the rate of flow of oil to the well it seems to indicate depletion of that zone of production immediately surrounding the well. Whether this zone will be later recharged with oil from other portions of the formation remains to be seen. Based upon penetration of about 120 feet in the Wilcox sand and upon past performance of wells in the Wilcox formation in other fields it does seem that this sand should deliver considerably more oil than now recovered even though some individual wells are not delivering oil freely at this time.

Some estimates have placed the remaining producing life of this sand by gas lift at from four to five years. If these wells have yielded 22,000 bbls. per acre up to July 1 and will cease to flow after producing 25,000 bbls. and this represents about 40 per cent to ultimate recovery, it would indicate that 55,000 bbls. per acre will finally be recovered from this formation. With 3,485 productive acres drilled in the Wilcox zone this would mean a total recovery of about 192,000,000 bbls., of which about 100,000,000 bbls. will be recovered by mechanical means.

If the water drive becomes effective it is reasonable to assume that a considerable quantity of oil will be driven up-dip into the drilled zone in the Wilcox formation, adding to the above estimate of recovery.

The Lower Simpson formation has already reached its peak of daily production rate and while the volume of water made by each well does not seem to increase materially as the well gets older, it is quite probable that the water is spreading laterally through the various Lower Simpson formations.

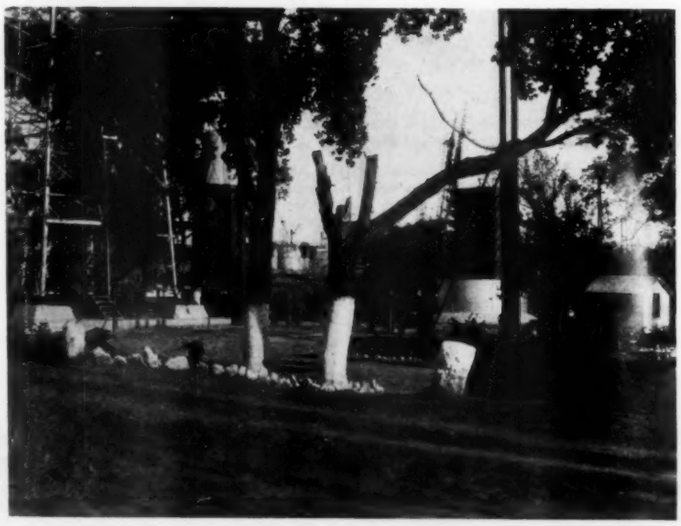
This will present a problem in mechanical production because it will require more power to lift the water than the oil. It is possible that this may be done economically by gas lift, although some operators express the opinion that beam pumping will eventually be resorted to.

Disposal of salt water is still something of a problem in this field, but it is believed that adequate facilities for handling all the water produced with the allowed oil are available for some time to come.

Natural gas for power and for gas lift is available at this time and even though the new ruling of the Corporation Commission prevents the use of gas produced from one zone for flowing wells in another zone it is believed that ample gas will be produced with the oil from each zone to meet gas lift and fuel requirements for a long time to come.

The present period is one of equipping wells for mechanical production and about 100 compressors are now being installed in various parts of the field with many more to be put in place later. Because of the additional men put to work under the NRA code much of this work is now being carried on actively and it seems that the field will be quite active in this respect for many months to come.

An Example of a Well Kept Lease in Oklahoma City Field



Modern Cleanout Methods Available for Deep Wells

(Continued from Page 35)

then possible to make a good plugging job. In other wells cleaning has been resorted to before setting liners or screens to keep cavings from filling the bottom of the hole.

Where screens are set the use of the suction bailer at regular intervals has proved an advantage. The rush of fluid into the bailer when the valve is released creates a suction that pulls material out of the openings in screens or slotted pipe and permits the freer entry of fluid into the hole.

The suction bailer consists of two chambers made of heavy pipe and separated by a valve. The upper chamber is sealed at atmospheric pressure while the tool is on the derrick floor by the closing of the valve. The tool is then lowered into at least 400 feet of fluid in the hole and the valve tripped. As the fluid column outside the bailer sets up a pressure in excess of 100-pounds per square inch the fluid will rush into the upper chamber having only atmospheric pressure as soon as the valve is opened. This inrush of fluid draws with it loose material in the hole restricted in size only by the size of the opening at the bottom of the lower chamber.

A valve is provided on the upper chamber that will permit the internal pressure set up by the fluid column to be reduced to a low enough working pressure to blow out the material trapped in the lower portion of the bailer when it reaches the surface and is ready to dump. The tool has now been in use long enough to prove its worth and bailers for any size hole are available in the Oklahoma City warehouse of the Cavins organization. Mr. Harper, the manager of the Oklahoma City branch, has had much experience in this work and their usual practice is to rent the bailer and charge for service rendered.

Pumping Units Have Place in the Oklahoma City Field

(Continued from Page 35)

ly more efficient than a large machine underloaded.

"The only sure way to compare the power efficiency of two types of machines is to use them on the same well alternately, seeing to it that speed, stroke, size and type of pump, and all other controllable factors are kept constant. Even where controllable factors are kept the same, the fluid level in the well, or other factors beyond control, may change, so that unless the dynamometer card is of the same shape as well as size for both machines, the validity of the comparison may be questioned.

"The next best basis of comparison is to use different pumping machines on different but similar wells where the dynamometer indicates that horsepower load at the polish rod is substantially the same. Where several machines of one type are used on different wells a curve of efficiency against horsepower output may be plotted. Thereafter, tests of another type of machine on one well will establish a point on such a chart. If this point is above the original curve the machine may be considered more efficient for that particular load."

WEST TEXAS MERGER

FORT WORTH, Tex., Aug. 28.—Merger of the South Plains Pipe Line Co. with the West Texas Gas Co. has been announced at Midland, Tex., by R. F. Hinchey, vice president and general manager. The pipe lines will operate as a transportation division of the West Texas Gas Co.

Advance in 1934 Bunker Fuel Contracts Leads Upward Trend in Eastern Refined Markets

By A. E. MOCKLER

New York Bureau, The Oil and Gas Journal

NEW YORK, Aug. 28.—The first definite reactions to the recently adopted NRA code for the petroleum industry became apparent in the East Coast refined products market last week with an advance of 10 cents per barrel in spot bunker fuel oil quotations, and an increase in maximum prices for 1934 delivery bunker oil of 50 cents per barrel over the top figure specified in contracts for the current year. An advance of one-quarter cent in tank car gasoline by Standard Oil Co. of New York, Inc., marketing subsidiary of Socony-Vacuum Corp., also developed during the week, being heralded as the forerunner of a general upward movement in motor fuel quotations, although not followed by all of the other marketers and refiners. Effective August 26, Standard of New Jersey advanced gasoline one-half cent.

Refinery Gasoline

Effective August 23, Standard Oil Co. of New York advanced tank car gasoline prices one-quarter cent at its principal distributing points. This advance, presumably, was caused by the upward movement in the Gulf cargo market which is quoted at 5 to 5¼ cents for high octane, compared with 4¾ to 5 cents during the preceding week. Socony, as well as other marketing companies in this area, is adjusting tank car quotations in conformity with changes at the Gulf. Some interest has been aroused in market circles by the latest increase, however, as no reduction in posted prices accompanied the recent break in the Gulf cargo price basis.

With the entire eastern seaboard in the grip of one of the worst gales on record for the better part of the week, there was a sharp curtailment in tank car movement of gasoline. Distributors were sending instructions to the refineries and bulk terminals for deferred shipment of tank cars previously ordered. At the close of the week shipments were again reaching normal. A heavy volume of tank car business has been booked for delivery during the current week, distributors stocking up both in anticipation of heavy demand over the Labor Day week-end and in the expectation of further increases in refinery prices.

Refinery production costs are rising as a result of the application of the code, a number of plants having been operating under the blanket for several weeks. In view of this situation, it is reported that the larger marketers have been heavy buyers of distressed gasoline in the Southwest, picking up attractively priced offerings that might be laid down here in tanker lots at less than replacement cost if the same quantities were to be processed at local refineries now. With restrictions to be placed upon withdrawals of crude from storage, refineries are getting their houses in order for the "new deal," and it is expected that some plants will witness a material increase in their operating schedules.

Current quotations, f.o.b. refineries or bulk terminals, are as follows: U. S. Motor, under 65 octane number, New York, 5.75 to 6.15 cents; Philadelphia, 6 cents; Boston, 5.95 to 6.20 cents; Baltimore, 6 cents; Charleston, S. C., 5¾ cents. U. S. Motor of 65 octane and above, New York, 6 to 6.40 cents; Philadelphia, 6¼ cents; Boston, 6.20 to 6.45 cents; Baltimore, 6.25 cents; and Charleston, S. C., 6 cents.

Tank Wagon Gasoline

Sharp competition in third grade gasoline is featuring tank wagon markets in many sections. The price has now been cut to 8 gallons for $1 in some sections, further widening the differential between this grade and so-called regular ethylized gasolines. Most of the leading companies are now marketing branded third grade products in metropolitan New York, the latest being "Indian" gasoline, covering Texaco's third grade. Service station operators report there has been a pronounced swing to the third grade product during recent weeks, and the increasing popularity of this product promises to give the marketers a hard problem to solve later on.

In the market for regular grades, prices have been marked up fractionally in some sections. In New York and New England territory marketers now post 16.5 cents at their service stations, compared with the previous quotations of 16.2 cents. Effective August 26, Standard of New Jersey advanced gasoline one-half cent throughout its territory, excepting Pennsylvania and Delaware.

In connection with gallonage on premium gasolines, following the recent scaling down of the price differential to 2 cents, conflicting reports are heard in marketing circles. In some sections some increase in sales has been recorded, but it appears this is not general.

With tank car gasoline prices showing an advancing tendency, the retail market is on the qui vive for an advance, and expects an early mark-up of one-half cent.

Kerosene

Volume of sales in the refinery market has shown a substantial increase, and the market for 41-43 water white has stiffened materially. In place of the price shading previously reported, refiners last week were firm at 5 to 5¼ cents for tank car kerosene, f.o.b. refineries or terminals, and reported they were getting a good volume at these levels.

In the retail end, correspondingly favorable reports were received. Gallonage has been well maintained, and prices are steady. As a result of the substantial increase in the number of distillate burners in use throughout the North Atlantic area, notably in New England, a recent tour of the area found numbers of special type tank wagons in use by independent marketers, these trucks being one-third to one-half the size of the large tank trucks used for gasoline distribution. Most of the major companies, however, contine to distribute kerosene in steel drums.

Furnace Oil

With oil prices trending toward higher levels, distributors are showing more interest in placing season contracts for tank car deliveries of domestic heating oils, and the market is showing a stronger tendency. Refiners are still quoting the market unchanged, however, at 4 cents for 32-36 oil, the most commonly used grade, and 5 cents for 36-40, in tank car lots. For 21 gravity industrial oil sellers still quote 3½ cents tank car.

Retail marketers of furnace oils are not inclined to push their contracting campaigns at previously announced prices (which were the same as 1932-33 levels in most instances) and are marking time.

Bunker Oil

Effective August 24, Standard Oil Co. of New Jersey and other leading bunkering companies announced an increase of 10 cents in bunker "C" oil quotations, taking in both Atlantic and Gulf Coast ports. This action places the base price at New York harbor and other North Atlantic ports at 95 cents per barrel, although locally a concession of 5 cents is still allowed contract buyers operating ocean-going steamships. With the lighterage charge, the market is now 95 cents to contract buyers here, and $1 per barrel, delivered alongside within harbor limits, to other buyers.

Coincidently with the advance in the spot quotation, it was announced that 1934 contracts will carry a maximum quotation of $1.60, contrasted with the maximum of $1.10 in 1933 contracts, on deliveries at Atlantic Coast ports, with the top figure in contracts covering Gulf Coast deliveries during 1934 set at $1.45, as contrasted with the top of 95 cents in contracts for the current year.

Diesel Oil

The advance in bunker oil has not yet spread to the Diesel oil market, but an early advance of 10 cents is predicted. The present quotation for Diesel oil is $1.75 at refineries, and $1.81½ delivered in the harbor via lighter.

Asphalt

Major oil companies are working out a code to cover the asphalt industry. With crude imports to be curtailed, refineries are expected to run more heavily on domestic crudes for asphalt.

Considerable of the funds being loaned by the Federal Government in connection with the industrial recovery program are to go for road building, and reports received by the oil companies specializing in asphalt production indicate that many millions will be expended on construction and improvement of the so-called country type roads, many of which are asphalt surfaced.

Paraffin Wax

Wax refiners are becoming more code-minded, and the market took on added firmness during the week. While no increases were reported, sellers were showing firmer tones. Operators in the wax market were taking long positions, usually a harbinger of a higher market.

Domestic demand for fully refined grades was reported to be along broader lines, and inquiries and actual sales in the export division were likewise reported on the up-grade.

Petrolatum

Stimulated by the stronger undertone in the petrolatum market, buyers were in the market for supplies in large volume, and sellers noted a substantial gain in tonnage.

Lubs

Interesting developments in connection with the adoption of canned lubricants, in sizes running from 1 quart and upward, are looked for in the domestic market.

Cylinder oils and bright stocks showed marked firmness, with a fairly active export buying movement, and refiners are still talking higher prices.

Domestic sales of industrial lubricants are still on the increase, indicating continued expansion in manufacturing operations.

Exports and Imports of Refined Products; Receipts of California Oil in the East

NEW YORK, Aug. 28. — There were some tentative offerings of gasoline and crude oil for export, but these were regarded as "trial balloons" to test out market sentiment, and export operators were not inclined to nibble. The tone of the export market was decidedly bullish and sellers at the Gulf who were freely offering high octane gasoline at 4¼ to 4½ cents in cargo lots a fortnight ago were putting out feelers, with 4⅞ cents generally mentioned as the offering price for 64-66 375 endpoint. Foreign buyers are not inclined to rush in and support a still uncertain market.

Petroleum Exports

The following table shows exports of principal refined petroleum products reported from the port of New York during the three weeks ended August 19 (all figures in gallons unless otherwise noted):

	Week ended		
	Aug. 19	Aug. 12	Aug. 5
Gasoline	27,000	4,000	25,000
Naphtha	132,000	.....	318,000
Kerosene	30,000	2,000	12,000
Fuel and gas oil	610,000	.....	7,000
Lub oil	873,000	1,035,000	920,000
Pet., refined	53,000	36,000	155,000
	Pounds		
Petrolatum	150,000	.....	10,000
Paraffin wax	880,000	2,311,000	935,000
Refined	70,000	.....	34,000
Scale	90,000	97,000	40,000
Lub grease	1,276,000	591,000	510,000

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended August 19 totaled 866,000 bbls., a daily average of 123,714 bbls., compared with 1,678,000 bbls., a daily average of 239,714 bbls. during the previous week and a daily average of 148,607 bbls. for the four weeks ended August 19. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast Ports—	Bbls.
New York	579,000
Philadelphia	225,000
Others	62,000
Total	866,000
Daily average	123,714

There were no imports at Gulf Coast ports during the week.

The week's imports consisted of 573,000 bbls. of crude oil and 293,000 bbls. of fuel oil.

California Oil Receipts

Receipts of California refined petroleum at Atlantic Coast ports for the week ended August 19 (there were no receipts of California oils at Gulf Coast ports during the period) totaled 510,000 bbls., a daily average of 72,857 bbls., compared with 193,000 bbls., a daily average of 27,571 bbls. during the previous week and a daily average of 50,107 bbls. for the four weeks ended August 19. Of the week's receipts, 38,000 bbls. were landed at Baltimore, 159,000 bbls. at New York, 233,000 bbls. at Philadelphia, and 80,000 bbls. at other Atlantic ports, the week's receipts comprising 80,000 bbls. of kerosene and 430,000 bbls. of gasoline.

XUM

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

EXCLUSIVE OF TAXES

The following quotations are exclusive of the Federal excise taxes of 1½ cents a gallon on gasoline and 4 cents on lubricating oils, which became effective June 17, 1933.

Refinery Gasolines

OKLAHOMA (Group 3)—	Aug. 29		Aug. 22	
*U. S. Motor grades:				
Regular	.04¼	.04½	.04	.04½
Premium	.04½	.04¾	.04¼	.04¾
Third grade	.03½	.03⅝	.03⅜	.03½
60-62 400 grades:				
Regular	.04⅜	.04½	.04⅛	.04¼
Premium	.04¾	.05	.04½	.05
Third grade	.03⅝	.03⅞	.03½	.04
64-66 390	.03¾	.04	.03⅝	.04
64-66 375	.04⅛	.04¼	.04	.04¼
68-70 350	.04⅜	.04½	.04¼	.04¾
NORTH TEXAS—				
U. S. Motor grades:				
Regular	.04	.04¼	.04	.04¼
Premium	.04¼	.04½	.04¼	.04½
Third grade	.03⅝	.03½	.03⅜	.03½
60-62 400	.03½	.03¾	.03½	.03¾
64-66 390	.03¾	.04	.03¾	.04
64-66 375	.04	.04¼	.04	.04¼
64-66 360	.04¼	.04¾	.04¼	.04¾
†NORTH LOUISIANA—				
U. S. Motor grades:				
Regular	.04½	.04¾	.04½	.04¾
Premium	.04¾	.05	.04½	.04¾
Third grade	.04		.03⅝	.04
60-62 400	.04⅛	.04⅜	.03¾	.04
†ARKANSAS—				
U. S. Motor grades:				
Regular	.04½	.04¾	.04¼	.04½
Premium	.04¾	.05	.04½	.04¾
Third grade	.04		.03½	.03¾
CHICAGO (Based on Oklahoma Group 3)—				
U. S. Motor grades:				
Regular	.04⅜	.04⅝	.04⅛	.04⅜
Premium	.04⅞	.05⅛	.04⅝	.04⅞
Third grade	.03⅝	.04	.03⅜	.03½
60-62 400	.03¾	.04	.03½	.03⅝
64-66 375	.03⅞	.04⅛	.03⅝	.03¾
68-70 360	.04	.04¼	.03¾	.04
Aviation fighting grade	.04¾	.05¼	.04½	.05

*Octane Ratings—The following octane ratings apply to the three grades of U. S. Motor gasoline: Regular 60-64 octane number; premium, 65 and above octane number; third grade, 59 and below octane number. Octane ratings determined by C.F.R. Motor Method.

PENNSYLVANIA (inland refineries)—				
U. S. Motor	.05¼	.05⅜	.05¼	.05⅜
60-62 400	.05⅜	.05½	.05⅜	.05½
64-66 375	.05¾	.06	.05¾	.06
68-70 350	.06	.06¼	.06⅛	.06⅜
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.06	.07	.06½	.07½
58-60 400	.07	.08	.07	.08
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.0575	.0615	.0575	.06
Philadelphia	.06		.0565	
Boston	.0595	.0620	.0595	
Baltimore	.06		.0550	.0575
Charleston, S. C.	.0575		.0575	
U. S. Motor, 65 and above:				
New York (Bayonne)	.06	.0640	.06	.0625
Philadelphia	.0625		.06	.0625
Boston	.0620	.0645	.0595	.0620
Baltimore, Md.	.0625		.0625	
Charleston, S. C.	.06		.06	
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.05⅛	.05¼	.04¾	.05
U. S. Motor, below 65 octane number	.04¾	.04⅞	.04¼	.04½

Naphthas

OKLAHOMA (Group 3)—	Aug. 29		Aug. 22	
50-52 450 (blending)	.03½	.03⅝	.03⅜	.03½
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.05	.05¼	.05	.05¼
†ARKANSAS—				
48-50 (blending)	.04	.04¼	.03¾	.04
CHICAGO (Based on Oklahoma Group 3)—				
50-52 450 (blending)	.03⅝	.04	.03⅜	.03⅝
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.05¾	.06	.05½	.05¾
Lacquer diluent, 180 i.b.p-250 e.p.	.07	.07¼	.06¾	.07
Lacquer diluent, 140 i.b.p.-200 e.p.	.08	.08¼	.07¾	.08¼
Rubber solvent, 68-70 gr., 100 i.b.p-300 e.p.	.05¾	.06	.05½	.05¾
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.05¼	.05½	.05	.05¼
Pet. thinner, 290-300 i.b.p.-415 e.p., over 83° flash	.04¾	.05	.04½	.04¾
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.05½	.05¾	.05¼	.05½
Petroleum spirits	.04½	.04¾	.04¼	.04½

Natural Gasolines

OKLAHOMA (Group 3)—	Aug. 29		Aug. 22	
Grade 18-55	03¾	.04	.03⅝	.03¾
Grade 26-70	.03¼		.03	.03⅛
Grade 30-70	.03⅛	.03¼	.02⅞	.03
Low vapor pressure grades:				
15 lb. v.p. (max.)	.04⅛	.04¼	.03¾	.04
11 lb. v.p. (max.)	.04½	.05	.04¼	.04½
NORTH TEXAS—				
Grade 18-55	.03¾	.03⅞	.03⅝	.03¾
Grade 26-70	.03¼		.03	
Grade 30-70	.03⅛	.03¼	.02⅞	
Low vapor pressure grades:				
15 lb. v.p. (max.)	.04	.04¼	.03¾	.04
11 lb. v.p. (max.)	.04½	.05	.04¼	.04½
NORTH LOUISIANA—				
Grade 26-70	.03½	.03¾	.03¼	.03½
CALIFORNIA—				
75-78 375	.05¼	.06¼	.05¼	.06¼

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	Aug. 29		Aug. 22	
41-43	.02½	.02⅝	.02⅜	.02⅝
42-44	.02⅝	.02¾	.02½	.02¾
NORTH TEXAS—				
40-41	.02⅜	.02½	.02¼	.02½
41-43	.02½	.02⅝	.02⅜	.02½
†NORTH LOUISIANA—				
41-43	.03	.03¼	.02¾	.03
42-44	.03¼		.03	.03¼
†ARKANSAS—				
41-43	.03¼		.02¾	.03
PENNSYLVANIA (inland refineries)—				
45	.04	.04⅛	.04¼	.04⅜
46	.04¼	.04½	.04¼	.04½
47	.04⅜	.04⅝	.04½	.04¾
CHICAGO (Based on Oklahoma Group 3)—				
41-43	.02⅝	.02¾	.02½	.02⅝
42-44	.02¾	.02⅞	.02⅝	.02¾
*CALIFORNIA—				
38-40 high burning test	.04	.04½	.04	.04½
NEW YORK (Bayonne, N. J.)—				
41-43	.05	.05¼	.05	.05½
GULF COAST (domestic)—				
41-43 water white	.04		.04	

*For Pacific Coast consumption.
†For Arkansas, Louisiana and Mississippi delivery.

Furnace Oils and Tractor Fuels

OKLAHOMA (Group 3)—	Aug. 29		Aug. 22	
32-36 straw	.02⅛		.02	
36-38 straw	.02	.02⅛	.01⅞	.02
38-40 straw	.02⅛	.02¼	.02	
39-41 prime	.02¼	.02⅜	.02⅛	.02¼
NORTH TEXAS—				
38-40 straw	.02	.02⅛	.01⅞	.02
†NORTH LOUISIANA—				
36-40	.02½	.02⅝	.02⅜	.02½
†ARKANSAS—				
32-36	.02½	.02⅝	.02⅜	.02½
CHICAGO (Based on Oklahoma Group 3)—				
32-36 straw	.02⅛		.02	.02⅛
38-40 straw	.02¼		.02⅛	.02¼
38-40 prime white	.02⅜		.02¼	.02⅜
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03¾	.04	.03¾	.04
NEW YORK (Bayonne, N. J.)—				
32-36	.04		.04¼	
36-40	.05		.0525	
21 (industrial)	.03½		.03½	

Above prices are for distillate oils of zero cold test under 190° F. flash and good odor.
†For Arkansas, Louisiana and Mississippi delivery.

Gas Oil, Diesel Oil and Fuel Oil

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

OKLAHOMA (Group 3)—	Aug. 29		Aug. 22	
32-36 (G.O.) cracking stock	.01½	.01⅝	.01⅜	.01½
U.G.I. (G.O.)	.01½		.01⅜	.01½
32-36, zero to 15 (G.O.) high flash	.01¾	.01⅞	.01⅝	.01¾
28-30, zero to 10	.70	.75	.70	.75
26-30, zero to 10	.65	.70	.65	.70
24-26	.50	.55	.50	.55
20-22	.45	.50	.45	.50
Below 16	.40	.45	.40	.45
NORTH TEXAS—				
32-36 (G.O.) industrial	.01⅜	.01½	.01¼	.01⅜
22-26	.50	.55	.45	.50
Below 20	.40	.45	.40	.45
†NORTH LOUISIANA—				
32-36 (G.O.) zero	.02½		.02½	
14-16	.35	.45	.45	
†ARKANSAS—				
30-32 (G.O.) zero	.02½		.02½	
14-16	.35	.45	.40	.45
CHICAGO (Based on Oklahoma Group 3)—				
32-36 (G.O.) industrial	.01½	.01¾	.01½	.01⅝
28-30 (zero)	.70	.82½	.70	.82½
26-28 (zero)	.65	.75	.65	.75
22-26 (zero)	.60	.65	.60	.65
18-22 (zero)	.55	.60	.55	.60
Below 18	.40	.45	.40	.45

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all areas than shown in above tables.
†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
36-40	.03½		.03⅜	
CALIFORNIA—				
30-34 (G.O.) per bbl.	.85	.90	.85	.90
27 plus Diesel	.80	.90	.80	.90
15-19 bunker (at tidewater)	.50	.60	.50	.60
15-19 (cargo lots)	.45	.55	.45	.55
15-19 (tank cars)	.40	.50	.42½	.50
GULF COAST—				
28-30 (G.O.)	.03	.03⅛	.03	
28-30 Diesel	1.60		1.60	
Bunker C (bulk cargoes)	.70	.75	.60	
Bunker C (bunkers)	.80		.70	
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.04		.04	
*28-30 Diesel	1.75		1.75	
26-30 Diesel (tank cars)	.04		.04	
‡Bunker C	.90	.95	.80	.85

*Lighterage 6½ cents per barrel.
‡Contract price at New York Harbor to ocean-going steamships only.

Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

Breeze (screenings)	5.25		5.25	
Still runs	6.25		6.25	
Lump and egg	7.00	7.25	7.00	7.25

*Refineries will absorb freight to 80 cents a ton.

Neutral Oils

(Viscosity at 100° F. and color)

OKLAHOMA (Group 3)—	Aug. 29		Aug. 22	
Zero to 10 Cold Test:				
150-3	.07¼	.07½	.07¼	.07½
180-3	.08½	.08¾	.08½	.08¾
180-4	.08¾	.08½	.08¼	.08½
200-3	.09	.09¼	.09	.09¼
200-4	.08¾	.09	.08¾	.09
240-3	.11	.11¼	.11	.11¼
240-4	.10¾	.11	.10¾	.11
280-3	.12	.12¼	.12	.12¼
280-4	.11½	.11¾	.11½	.11¾
300-3½	.12¾	.13	.12¾	.13
350-3½	.13¾	.14	.13¾	.14
400-4	.14¾	.15	.14¾	.15
500-4½	.15¾	.16	.15¾	.16
100-2 paraffin oil	.05¼	.05½	.05¼	.05½
15-30 Cold Test:				
200-3	.08¼	.08½	.08¼	.08½

200-4	.08	.08¼	.08	.08¼
240-3	.10¼	.10½	.10¼	.10½
240-4	.10	.10¼	.10	.10¼
280-3	.11¼	.11½	.11¼	.11½
280-4	.11	.11¼	.11	.11¼
PENNSYLVANIA—				
150 vis., No. 3, 400-405:				
Zero pour test	.17	.17½	.17	.17½
10 pour test	.16½	.16¾	.16½	.16¾
15 pour test	.15	.15¼	.15	.15¼
25 pour test	.14¼	.14½	.14¼	.14½
180 vis., No. 3, 25 pour test	.16½	.16¾	.16½	.16¾
200 vis., No. 3:				
Zero pour test	.21½	.21¾	.21¼	.21½
10 pour test	.20¼	.20½	.20¼	.20½
15 pour test	.19¼	.19½	.19¼	.19½
25 pour test	.19	.19¼	.18½	.18¾
GULF COAST—				
Pale Oils:				
100-2-2½	.04½		.04½	
200-3	.05¼	.05½	.05¼	.05½
300-3	.06¼	.06½	.06¼	.06½
500-3½	.08½	.08¾	.08½	.08¾
750-3½	.09¼	.09¾	.09¼	.09¾
1,200-3½	.10	.10½	.10	.10½
2,000-4	.11	.11¼	.11	.11½
Red Oils:				
200-5-6	.04½		.04½	
300-5-6	.05¼	.05½	.05¼	.05½
500-5-6	.07¼	.07½	.07¼	.07½
750	.08¼	.08½	.08¼	.08½
1,200-5-6	.09	.09½	.09	.09½
2,000-6 plus	.10	.10¼	.10	.10¼
CALIFORNIA—				
Pale Oils:				
100-2½-3	.09	.09½	.09	.09½
200-2½-3	.09½	.10	.09½	.10
300-3-3½	.10½	.11	.10½	.11
350-3-4	.11	.11½	.11	.11½
400-3-4	.11½	.11¾	.11½	.11¾
450-3-4	.11¾	.12	.11¾	.12
550-3-4	.12	.12½	.12	.12½
Red Oils:				
200-4-5	.09½	.10	.09½	.10
300-5-6	.10½	.11	.10½	.11
350-5-6	.11	.11½	.11	.11½
400-5-6	.11½	.11¾	.11½	.11¾
450-5-6	.11¾	.12	.11¾	.12
500-5-6	.12	.12¼	.12	.12¼
600-5-6½	.12¼	.12½	.12¼	.12½
700-6½ plus	.12½	.12¾	.12½	.12¾
750-6½ plus	.12¾	.13	.12¾	.13
900-6½ plus	.13	.14	.13	.14½

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Aug. 29		Aug. 22	
630 light green	.06¾	.07¾	.06¾	.07¾
600 light green S. R.	.06¼	.07¼	.06¼	.07¼
600 dark green S.R.	.04¾	.05¾	.04¾	.05¾
Bright Stocks:				
190-200 D	.23½	.24½	.23½	.24½
150-160 D, 0-10	.21¾		.21¾	
150-160 D, 10-25	.21¼		.21¼	
150-160 D, 25-40	.20¾		.20¾	
150-160 E	.19¾		.19¾	
PENNSYLVANIA—				
600 S.R.	.14¾	.15	.14¼	.14½
650 S.R.	.17	.17¼	.16½	.16¾
600 Pennsylvania flash	.18	.18¼	.17½	.17¾
650 D filtered	.23	.23¼	.22½	.22¾
600 E filtered	.18½	.18¾	.18	.18¼
Pennsylvania Grade bright stock:				
No. 8 color, 145-50 vis., at 210; 540-550 flash:				
10 pour test	.27½	.27¾	.27¼	.27½
15 pour test	.26	.26½	.25½	.26
25 pour test	.25	.25½	.24½	.25

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Aug. 29		Aug. 22	
124-126 white crude scale	.03⅛	.03¼	.03	.03⅛
PENNSYLVANIA—				
122-124	.03⅜	.03½	.03¼	.03⅜
124-126	.03⅜	.03⅝	.03⅜	.03½
NEW YORK HARBOR—				
120-122 (a.m.p. basis)	.0350		.0350	
125-127	.0375		.0375	
130-132	.0420		.0420	
133-135	.0480		.0480	
135-137	.05		.05	
Petrolatum in barrels in carload lots:				
Dark green	.02	.02⅛	.02	.02⅛
Amber	.02¼	.02⅝	.02¼	.02⅝
Extra amber	.02⅜		.02⅜	
Lily white	.06	.06¼	.06	.06¼
Snow white	.07	.07¼	.07	.07¼
Cream	.04¼	.05	.04¼	.04½
CHICAGO (f.o.b. switching district)*				
122-124	.0390	.0400	.0390	.0400
125-127	.0415	.0425	.0415	.0425
127-129	.0430	.0440	.0430	.0440
130-132	.0490	.0500	.0490	.0500
132-134	.0515	.0525	.0515	.0525

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx.

Add 3° F. for a.m.p.

Export Prices

GASOLINE				
GULF COAST—	Aug. 29		Aug. 22	
U. S. Motor	.04¼		.04¼	
60-62 400	.04⅜	.04½	.04⅜	.04½
61-63 390	.04⅜	.04½	.04⅜	.04½
64-66 375	.04½	.04¾	.04½	.04¾
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p.	.04	.04½	.04	.04½
U. S. Motor, 65 octane	.04½	.04¾	.04½	.04¾
U. S. Motor, 67 octane	.05		.05	
U. S. Motor, 69 octane	.05¼		.05¼	
58-60 400 endpoint gasoline	.04½	.05	.04½	.05
KEROSENE				
GULF COAST—				
41-43 prime white	.04¼		.04¼	
41 water white	.04½		.04½	
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼
LUBRICANTS				
NEW YORK (f.a.s. in bbls.)—				
600 Warren E	.24½		.24½	
600 S.R. unfiltered	.20¾		.20¾	
650 S.R. unfiltered	.22½		.22½	
600 flash S.R.	.24		.24	
630 flash S.R.	.29		.29	
Bright stock, No. 8 color	.31		.31	
Bright stock, No. 6½ color dil.	.30½		.30½	
NEUTRALS				
NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—				
230-3¾	.10¾		.10¾	
180-3½	.10½		.10½	
100-2¼	.06		.06	
Red Engine Oil, Bulk (vis. at 100):				
300-6½	.10½		.10½	
250-6	.09½		.09½	
200-6	.08¾		.08¾	
PARAFFIN WAX (Fully Refined)				
NEW YORK (prices per pound)—				
123-125 a.m.p.	.03⅞	.04	.03⅞	.04
125-127 a.m.p.	.03⅞	.04	.03⅞	.04
130-132 a.m.p.	.0440	.0450	.0440	.0450
133-135 a.m.p.	.0495	.05	.0495	.05
135-137 a.m.p.	.05	.0520	.05	.0520

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas.....(See note)
Stratman, Kans. (Aug. 25, 1933)†..... $.72
Corsicana (heavy) (June 17, 1933)*..... .30
Other fields.....(See gravity table)

Note—In East Texas, effective August 24, 1933, Humble Oil & Refining Co., 60 cents; effective August 25, Shell Petroleum Corp., Stanolind Crude Oil Purchasing Co., Texas Co., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., all 60 cents; effective August 25, Sun Oil Co. and Panola Pipe Line Co., 75 cents. Effective August 26, Empire Oil & Refining Co., 60 cents.
*Magnolia Petroleum Co. †Eldorado Refining Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell, Ector, Winkler and and Pecos Counties, and Lea County, New Mexico (See note)..... $.40
Toborg, Pecos County (June 20, 1933)*..... .25
Jones and Fisher Counties..See gravity table

Note—Effective August 24, 1933, by Humble Oil & Refining Co. Effective August 25 by Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co., in Winkler County, alone.
*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers.....
.....(See gravity table)
Tomball (See note)*..... $.75
Livingston (Aug. 25, 1933)†..... .55
Greta (Aug. 25, 1933)*..... .60
Refugio, light.....(See gravity table)
Refugio, heavy (Aug. 24)‡..... .55
Markham and High Island
.....(See Gulf Coast gravity table)
Conroe.....(See Conroe gravity table)

Note—Tomball, effective August 24, by Humble Oil & Refining Co. Effective August 25, Magnolia Petroleum Co.
*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy, by Humble Oil & Refining Co.

South Central and Southwest Texas

(See note below table)

Darst Creek..... $.50
Mirando..... .50
Luling (Aug. 25, 1933)..... .45
Pettus..... .65
Salt Flat..... .50
Lytton Springs (Aug. 25, 1933)..... .55
Duval County (Aug. 25, 1933)..... .50
Saxet..... .55

Note—Effective on August 24 by Hum-

(Continued on Page 48)

Crude Oil Gravity Table

Degrees in gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	5 Carson, Hutchinson and Moore Counties, Texas	6 Conroe, Texas	7 Salt Creek, Wyoming	8 Gulf Coast, Texas-Louisiana	9 Gulf Coast, Texas-Louisiana	10 Caddo, Louisiana	11 Sabine-DeSoto, Louisiana	12 Homer, Louisiana	13 Sarepta-Carterville, Louisiana	14 El Dorado, Arkansas	15 Haynesville, Louisiana	16 Miller County, Arkansas
Below 20	....	....	....	....	....	....	....	$.42	$.42	....	....	....	....	....	....	....
20-20.9	....	....	....	....	....	....	....	.44	.44	....	....	....	....	....	....	....
21-21.9	....	....	....	....	....	....	....	.46	.46	....	....	....	....	....	....	....
22-22.9	....	....	....	....	....	....	....	.48	.48	....	....	....	....	....	....	....
23-23.9	....	....	....	....	....	....	....	.50	.50	....	....	....	....	....	....	....
24-24.9	....	....	....	....	....	....	....	.52	.52	....	....	....	....	....	....	....
Below 25	$.40	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
25-25.9	.42	....	....	....	....	....	....	.54	.54	....	....	....	....	....	....	....
26-26.9	.44	....	....	....	....	....	....	.56	.56	....	....	....	....	....	....	....
27-27.9	.46	....	....	....	....	....	....	.58	.58	....	....	....	....	....	....	....
28-28.9	.48	....	....	....	....	....	....	.60	.60	....	....	....	....	....	....	....
Below 29	....	$.38	$.38	....	....	....	$.48	....	....	$.33	$.40	$.39	$.43	$.45	$.35	$.29
29-29.9	.50	.40	.40	....	....	....	.50	.62	.62	.35	.42	.41	.45	.47	.37	.31
30-30.9	.52	.42	.42	....	....	....	.52	.64	.64	.37	.44	.43	.47	.49	.39	.33
31-31.9	.54	.44	.44	....	....	....	.54	.66	.65	.39	.46	.45	.49	.51	.41	.35
32-32.9	.56	.46	.46	....	....	....	.56	.68	.66	.41	.48	.47	.51	.53	.43	.37
33-33.9	.58	.48	.48	....	....	....	.58	.70	.67	.43	.50	.49	.53	.55	.45	.39
34-34.9	.60	.50	.50	....	....	....	.60	.72	.68	.45	.52	.51	.55	.57	.47	.41
Below 35	....	....	....	$.44	$.39	....	....	....	....	....	....	....	....	....	....	....
35-35.9	.62	.52	.52	.46	.41	$.69	.62	.72	.69	.47	.54	.53	.57	.59	.49	.43
36-36.9	.64	.54	.54	.48	.43	.71	.64	.72	.70	.49	.56	.55	.59	.61	.51	.45
37-37.9	.66	.56	.56	.50	.45	.73	.66	.72	.71	.51	.58	.57	.61	.63	.53	.47
38-38.9	.68	.58	.58	.52	.47	.75	.68	.72	.72	.53	.60	.59	.63	.65	.55	.49
39-39.9	.70	.60	.60	.54	.49	.77	.70	.72	.73	.55	.62	.61	.65	.67	.57	.51
40 and over	.72	.62	.62	.56	.51	.79	.72	.72	.74	.57	.64	.63	.67	.69	.59	.53

Column 1—Effective August 25 by Carter Oil Co. in Oklahoma and Kansas; Magnolia Petroleum Co. in Oklahoma; Pure Oil Co. in Oklahoma and Kansas; Rock Island Refining Co. in Oklahoma; Shell Petroleum Corp. in Oklahoma and Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Sinclair Prairie Oil Marketing Co. in Oklahoma and Kansas. Effective August 25 but schedule beginning with "below 29 degrees, 48 cents," by Stanolind Crude Oil Purchasing Co. in Oklahoma and Kansas; the Texas Co. in Oklahoma; Deep Rock Oil & Refining Corp. in Oklahoma; Eason Oil Co. in Oklahoma; Gypsy Oil Co. in Oklahoma and Kansas; Johnson Oil Refining Co. in Oklahoma; Kanotex Refining Co. in Kansas; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Oklahoma and Kansas; Sunflower Refining Co. in Kansas; Tide Water Oil Co. in Oklahoma and H. F. Wilcox Oil & Gas Co. in Oklahoma. Effective August 26 by Empire Pipe Line Co. in Oklahoma and Kansas; Skelly Oil Co. in Kansas and White Eagle Oil Corp. in Kansas. Effective August 25 by Anderson & Prichard, Inc., in Oklahoma and Golden Rule Refining Co. and Vickers Petroleum Co. in Kansas. Effective August 28, Bell Oil & Gas Co. in Oklahoma.

Column 2—Effective August 24 by Humble Oil & Refining Co. Effective August 25 by the Stanolind Crude Oil Purchasing Co., Sinclair Prairie Oil Marketing Co., the Texas Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Pure Oil Co. Effective August 28 by Bell Oil & Gas Co.

Column 3—Effective August 25, the Texas Co., Gulf Refining Co., Magnolia Petroleum Co. Stanolind Oil & Gas Co. in Pine Island district, Louisiana, and Marion County, Texas, posts below 29 degrees, 33 cents; 40 and above, 57 cents, with 2-cent differential per degree. For Standard Oil Co. of Louisiana prices see Columns 10 to 16. Louisiana Oil Refining Co. met Standard Oil Co. prices.

Column 4—Effective August 24 Humble Oil & Refining Co. Effective August 25 the Texas Co., Gulf Pipe Line Co. Sinclair Prairie Oil Marketing Co., Wilcox Oil & Gas Co., Magnolia Petroleum Co., Philtex Oil Co. Effective August 26, pays: Below 31 gravity, 38 cents, with 2 cents added for each degree upward to 40 and above at 58 cents.

Column 5—Effective August 24 by Humble Oil & Refining Co. Effective August 25 by Gulf Pipe Line Co., the Texas Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co. Effective August 26 the Philtex Oil Co. posted as follows: Below 31 degrees, 28 cents, with 2 cents added for each degree upward to 40 and over at 48 cents.

Column 6—Effective August 24 by the Humble Oil & Refining Co. August 25 by the Texas Co. and the Tide Water Oil Co.

Column 7—Effective August 26, Stanolind Oil & Gas Co.

Column 8—Effective August 24, Humble Oil & Refining Co. Effective August 25, Gulf Pipe Line Co., Magnolia Petroleum Co., Sun Oil Co., Sinclair Prairie Oil Marketing Co.

Column 9—Effective August 25, the Texas Co.

Columns 10, 11, 12, 13, 14, 15, 16—Effective August 25, Standard Oil Co. of Louisiana. Met on same day by Louisiana Oil Refining Co. in Caddo, Homer, Haynesville and Cotton Valley.

(California Crude Oil Prices on Page 21)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

August 29, 1933

Taxes

The gasoline quotations given in the following tables include the 1½-cent Federal tax effective June 17, 1933, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is available at 1 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 2 cents above the service station price for the regular grade.

Southern District

STANDARD OIL CO (KENTUCKY)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'lds tax of	Kero. tank wagon
Atlanta, Ga.	22.0	22.0	7.5	10.0
Augusta	22.0	22.0	7.5	11.0
Macon	20.0	20.0	7.5	13 0
Savannah	22.0	22 0	7 5	14.0
Birm'ham, Ala.	24 0	24.0	8.5	13 0
Mobile	22 0	22 0	8.5	10.0
Montgomery	25 0	25.0	8.5	14 0
Jackson, Miss.	21 0	21.0	7.5	11.0
Vicksburg	20.0	20.0	7.5	11 0
Jack'ville, Fla.	21.0	21.0	8.5	12 5
Miami	22.0	22 0	8.5	13 5
Pensacola	19.0	19.0	8.5	13 5
Tampa	22.0	22.0	8.5	12.5
Lexington, Ky.	20 0	20.0	6 5	10 0
Covington	20.0	20.0	6 5	11 5
Louisville	19.0	19.0	6 5	10.0
Paducah	21 0	21.0	6.5	9 0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent tax. To Mobile state tax add 1-cent city tax. Dealers receive discount of 3 cents off tank wagon price throughout territory.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'lds tax of	Kero. tank wagon
Dallas, Tex.	15.0	17.5	5.5	7.5
Fort Worth	15.0	17.5	5.5	7.5
Houston	15.0	17.5	5.5	8.0
El Paso	15.5	18.0	5.5	8.0
San Antonio	15.5	18.0	5.5	8.0
Texarkana	*18.0	18 0	5.5	†11.0
Muskogee	15.0	17.0	5.5	7.0
Okla City.	15.0	17.0	5.5	7.5
Tulsa	15 0	17 0	5 5	7 0
Ft. Smith, Ark.	18.4	18.4	5.5	†10.0
Little Rock	‡20.9	20.9	7.5	†10.0

*Less 2½ cents to dealers. †Less 2 cents to dealers. ‡Less 4½ cents to dealers.

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'lds tax of	Kero. tank wagon
Chicago	16.2	16.2	4 5	8.7
Decatur, Ill.	16.7	16.7	4.5	9.2
E. St. Louis	16.0	16.0	4.5	8.5
Joliet	16.7	16 7	4.5	9.2
Peoria	16.7	16.7	4.5	9.2
Quincy	14.3	14.3	4.5	9.0
Davenport, Ia.	16 6	16.6	4.5	9.1
Des Moines	16.6	16.6	4.5	8.0
Mason City	16.6	16.6	4.5	9.1
Sioux City	16.2	16.2	4.5	8.7
Duluth, Minn.	17.2	17.2	4.5	9.4
Mankato	16.8	16.8	4.5	9.3
Minneapolis	16.9	16.9	4.5	9.4
LaCrosse, Wis.	15.3	15.3	5.3	9.8
Green Bay	17.7	17.7	5.5	9.2
Milwaukee	17.2	17.2	5.5	8.7
Madison	17.4	17.4	5.5	8.9
Detroit, Mich.	16.5	16.5	4.5	9.5
Grand Rapids	16.7	16.7	4.5	9.2
Saginaw	17.0	17.0	4.5	9.5
Evansville, Ind.	17.5	17.5	5.5	9.0
Indianapolis	17.7	17.7	5.5	9.2
South Bend	18.0	18.0	5.5	9.5
Fargo, N. Dak.	13.6	13.6	4.5	11.1
Huron, S. Dak.	18.9	18.9	5.5	10.4
Sioux Falls	18.4	18.4	5.5	9.9
K. C., Mo.*	15.7	15.7	4.5	6.5
Springfield*	15.6	15.6	4.5	8.1
St. Louis	14.7	14.7	4.0	7 7
St. Joseph*	15.3	15.3	4.5	7.8
Wichita, Kans.	14.6	14.6	4.5	7.1
Bartlesville, Ok.	15.0	17.0	5.5	8.5

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

Effective June 1, 1933—Discounts off tank wagon price to consumers on 500 gallons or more per month in territory outside of Chicago metropolitan area: 2 cents on Ethyl and Red Crown gasolines, and 1 cent on Stanolind gasoline. One-half cent additional discount in Chicago division.

Effective July 1, 1933—Discounts on resellers authorized agent's agreement made off the service station price throughout the territory as follows: 2.5 cents on Red Crown Ethyl and Standard Red Crown gasolines, and 1.5 cents on Stanolind gasoline. Half of reduction from normal service station price shall be absorbed by reseller up to maximum of 1 cent on all grades.

Stanolex Furnace Oil in Chicago

Effective June 27, 1933, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), under 100 gallons, 7¾ cents; No. 2 (30-34 stw. zero), 7¼ cents; No. 3 (22-26 zero), 6¾ cents; No. 4 (12-16 zero), 5¾ cents. Viscosity of No. 4, 90-115 at 100° F.; No. 5, 5½ cents; for deliveries of 100 gallons or more deduct 1 cent.

Naphtha

	Tank Wagon	Car
Oleum spirits	11.9	6 23
V.M.&P. naphtha	13.9	6.73
Cleaners' naphtha	13.9	9.23
Stanisol	13.9	9.23

Tank wagon prices f.o.b. Chicago, January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Atlantic Coast District

(Effective June 28)

STANDARD OIL CO. (NEW JERSEY)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'lds tax of	Kero. tank wagon
Atl'tic City N.J.	17.7	18.7	4.5	11.2
Newark	17.0	18.0	4.5	8.5
Annapolis, Md.	18 3	19 3	5.5	9.0
Baltimore	17.8	18.8	5 5	8.0
Cumberland	19.3	20.3	5.5	11.7
Wash'g'n, D. C.	16.0	17.0	3.5	10.0
Danville, Va.	20.4	21.4	6.5	9 9
Norfolk	18 9	19.9	6 5	10.3
Petersburg	19.7	20.7	6.5	11.4
Richmond	19.3	20.3	6.5	10.7
Roanoke	20.5	21.5	6 5	11.0
Charle'n, W.Va.	18.7	19.7	5.5	11.2
Parkersburg	18.0	19 0	5 5	10.2
Wheeling	18.7	19.7	5.5	11.2
Charlotte, N. C.	22.1	22.1	7.5	12.5
Hickory	22.4	23 4	7.5	12.7
Mt. Airy	22.4	23.4	7.5	12.8
Raleigh	21.9	22.9	7.5	12.3
Salisbury	22.2	23.2	7.5	12 6
Charleston, S.C.	19.9	20.9	7.5	10 3
Columbia	21.7	22.7	7.5	12.2
Spartanburg	22.1	23.1	7 5	12.5

Note—Dealer contracts for gasoline are written at 2½ cents over the posted tank car price. The posted tank car price is the sum of the tax and 7.5 cents subtracted from service station price. A 3-cent discount allowed for cash at all service stations. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey and Baltimore, Md.

New York and Part of New England District

STANDARD OIL CO. (NEW YORK)*

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'lds tax of	Kero. tank wagon
Albany, N. Y.	17.7	18.7	4 5	9.0
New York	17.2	18 2	4 5	8 0
Buffalo	17 9	18 9	4 5	9.0
Rochester	18.0	19 0	4.5	9.0
Syracuse	18 0	19.0	4.5	9.5
Boston, Mass.	17 2	18 2	4 5	8.0
Augusta, Me.	18.7	19 7	5 5	9 0
Manch'tr, N. H.	19 4	20.4	5.5	8 0
Burlington, Vt.	20.0	21.0	5.5	8 5

*All service station prices subject to 2-cent discount for cash.

Central South District

STANDARD OIL CO. (LOUISIANA)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'lds tax of	Kero. tank wagon
N. Orleans, La.	18.8	19.8	*7.5	†11.0
Baton Rouge	18.0	19.0	6.5	†10.0
Alexandria	18.9	19.9	*7.5	†8.5
Lafayette	19.1	20.1	*7.5	†10.0
Lake Charles	19.0	20.0	*7.5	†10.0
Shreveport	16.8	17.8	6.5	†11.0
Knoxville, Tenn.	22.7	23.7	8.5	12.5
Memphis	21.1	22.1	8.5	10.0
Chattanooga	22.4	23.4	8.5	10.0
Nashville	22.0	23.0	8.5	10.0
Bristol	22.6	23.6	8.5	13.0
Lt. Rock, Ark.	19.9	20.9	8.5	10.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

Effective June 2, 1933, station price fixed at 7 cents above basic tank car price at key refining points in territory. Discount to cash customers 2 cents off station price. Commercial consumers for tank wagon delivery pay following amounts over tank car price basis yearly deliveries:

1,000 to 75,000 gallons	2.5
75,000 to 300,000 gallons	1.5
Over 300,000 gallons	1.0

Pennsylvania-Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Pittsburgh, Pa.	16 0	17 0	4.5	9 0
Philadelphia	16.0	16.5	4.5	9.0
Scranton	16.0	17 0	4.5	9 0
Allentown	16.0	17 0	4 5	9 0
Altoona	16 0	17 0	4.5	9 0
Erie	16.0	17.0	4.5	9.0
Dover, Del.	16.0	17 0	4 5	9 0
Wilmington	16 0	17 0	4 5	9.0
Springf'd, Mass.	17 8	18.8	4 5	8.0
Worcester	17.7	18 7	4 5	8 0
Boston	17.2	18.2	4.5	8 0
Providence, R.I.	16.2	17.2	3.5	8.0
Hartford, Conn.	16.6	17.6	3 5	8.0
New Haven	16.4	17 4	3 5	8.0

On gasoline "split dealers," 2 cents off posted tank wagon price. To 100 per cent dealers, 2.5 cents. To authorized dealers (under lease 1 cent per gallon), 2.5 cents off posted service station price. Commercial accounts, under contract for one year, are sold at a discount off the posted prices, with due consideration to competition.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline: Tank truck†	Gasoline: Posted retail	Gasoline: Incl'ds tax of	Kero. tank wagon
Fresno, Calif.	17.5	20.0	4.5	14.0
San Francisco	17.0	19 5	4.5	12.5
Los Angeles	16.0	18.5	4.5	12.5
Reno, Nev.	20.5	23.0	5.5	15.5
Portland, Ore.	20.0	22.5	5.5	13.5
Seattle, Wash.	20.0	22.5	6.5	13.5
Tacoma	20.0	22.5	6.5	13.5
Spokane	23.0	25.5	6.5	18.0
Phoenix, Ariz.	17.5	20.0	6.5	‡16.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent. ‡Includes 5-cent state tax.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'lds tax of	Kero. tank wagon
Denver, Colo.	17.0	19.0	5.5	11.5
Pueblo	17.0	19.0	5.5	13.0
Grand Jnctn.	19.0	21.0	5.5	13.0
Casper, Wyo	18.0	20.0	5.5	10.5
Cheyenne	16.0	18.0	5 5	12 0
Butte, Mont.	21 5	23 5	5 6	17.5
Billings	21 0	23 0	6.5	16.0
Great Falls	23.0	25.0	6.5	17.5
Helena	23.0	25.0	6.5	17.5
Salt Lake, Utah	20.0	22.0	5.5	16.0
Albu'que, N. M.	13 5	21 0	*7 5	12.0
Boise, Idaho	23.0	25.0	6.5	18.0
Twin Falls	23.0	25.0	6.5	18.0

*One-cent city tax.

Effective June 1, 1933, dealers and lease and license accounts will receive 2½ cents discount on regular gasoline in Montana, Colorado, Wyoming, Utah and Idaho.

Ohio

STANDARD OIL CO. (OHIO)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'lds tax of	Kero. tank wagon
Ohio points	17.0	*20.0	5.5	†12.5

*Two-cent discount allowed for cash. †Includes state tax of 1 cent, effective July 22.

Nebraska

STANDARD OIL CO. (NEBRASKA)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'lds tax of	Kero. tank wagon
Omaha	16.8	17.8	5.5	9.8
McCook	16 0	16.0	5.5	9.0
Norfolk	17.3	18.3	6.5	10.3
N. Platte	18.3	19.3	5.5	11.0
Scottsbluff	17.8	17.8	5.5	10.0

Note: Discount to dealers and AAA commissions. From service station price: Red Crown Ethyl and Standard Red Crown Gasoline, 2½ cents. Reliance (third brand) gasoline, 1½ cents. Rentals under lease and agents agreement, one-half cent per gallon additional.

Discount to consumers under contracts (large consumers under contracts and governmental units): On tank wagon deliveries of gasoline on monthly purchases of 500 gallons, or yearly purchases of 6,000 gallons, from the service station price: Red Crown Ethyl and Standard Red Crown Gasoline, 2 cents per gallon; Reliance (third brand) gasoline, 1 cent per gallon.

Canada*

IMPERIAL OIL, LTD.

Imperial 3-Star Gasoline

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Inc'lds tax of	Kero. tank wagon
†Hamilton, Ont.	25.0	26.0	6.0	16.0
†Toronto, Ont.	25.0	26.0	6.0	16.0
Brandon, Man.	29.5	33.0	7.0	21.0
Winnipeg, Man.	26.5	30.0	7.0	18.0
Regina, Sask.	29.5	33.5	6.0	22.0
Saskatoon, Sask.	31.5	35.5	6.0	24.0
Edmonton, Alta.	30.0	34.0	6.0	23.0
Calgary, Alta.	26 5	30.5	6.0	19.5
†Vanc'ver, B. C.	29.0	29.5	6.0	23.0
Montreal, Que.	22.5	25.5	6.0	15.5
St. Johns, N.B.	25.0	29.0	7.0	21.0
Halifax, N.S.	24.0	28.0	6 0	21.0

*Imperial gallon used in Canada. †Dealer discount posted tank wagon on gasoline in Ontario and British Columbia subject to dealer's discount of 2 cents per gallon.

TANK WAGON CHANGES

Standard Oil Co. of Indiana advanced the gasoline tank wagon and station prices one-half cent August 26.

SUPPLIERS REVISE CODE

DALLAS, Tex., Aug. 28.—Directors of the American Petroleum Equipment Suppliers Association met in Dallas during the week to discuss and revise the tentative code adopted at the organization of the association in Dallas on August 3 and 4, preparatory to forwarding the code to Washington. Only minor revisions were made, necessary to bring the document up to date before submission to the President. The directors also discussed necessary changes in the by-laws.

W. L. Childs of Houston, president of the association, presided at the directors meeting which was attended by 18 of the 20 directors, including Jack A. Crawford, chairman of the code committee and T. T. Word, chairman of the by-laws committee.

PHILLIPS AVIATION PRIZE

Frank R. Phillips, head of the Phillips Petroleum Co., Bartlesville, Okla., has posted a $10,000 cash purse and the Frank Phillips trophy as the awards in high-speed closed-course event of the coming Olympiad of the air, which will be held September 1, 2, 3 and 4 at Curtiss-Wright airport, northwest of Chicago, in connection with the Century of Progress.

ORCHARD REFINERY RESUMES

CASPER, Wyo., Aug. 28.—The refinery at Orchard, Colo., has resumed runs. It had been shut down because of failure to secure crude requirements. It is running on Greasewood crude temporarily, but will change to Wyoming crude later.

LEGAL

Notice of sale of oil and gas lease, Department of the Interior, General Land Office, Washington. Notice is given that the following described lands are offered to the qualified bidder of the highest amount offered per acre as a bonus for the privilege of leasing the land under Sec. 17 of the leasing act of February 25, 1920 (41 Stat. 437), at the royalty rate fixed in the standard lease form, copy of which may be procured from the Commissioner of the General Land Office: T. 23 N., R. 16 W., L.M., Sec. 29, Lot 3 (SW¼ NE¼), 54.83 acres; Sec. 32, Lot 2 (NW¼ NE¼), 54.40 acres. The successful bidder, when so notified, will be required to deposit cash or certified check on a solvent bank for one-fourth of the bid and pay the remaining three-fourths upon receipt of lease for execution. The successful bidder also shall agree in writing to the stipulations contained in the "Regulations Governing the Sale of Lands under Sec. 17 of the Act of February 25, 1920," approved September 22, 1932, copy of which may be procured from the oil and gas supervisor, Geological Survey, Federal Building, Tulsa, Oklahoma, or the Commissioner of the General Land Office, Washington, D. C. Sealed bids will be received in the office of the Secretary of the Interior up to 10:00 a.m., September 16, 1933. Bidders are warned against violation of the provisions of Sec. 59, U. S. Criminal Code, approved March 4, 1909, prohibiting any unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids in the discretion of the Secretary of the Interior. (Signed) Fred W. Johnson, Commissioner.

Signs of Returning Confidence in Chicago Area as Trade Hopefully Awaits Developments

By R. C. CONINE
Chicago Bureau, The Oil and Gas Journal

CHICAGO, Aug. 28. — Signs of returning confidence are everywhere in evidence in the Chicago district oil trade circles, but it probably remains for expected developments of this week to convince jobbers that this is not another false alarm and that they should begin buying. Gasoline movement to larger distributors who have bulk plants has been at a good rate, as the majority of these distributors feel they are safe in loading up to the limit. This buying came to a sharp halt, however, when refiners who had been offering materials below ruling prices discovered that crude oil and gasoline retail prices need not be dormant until September 2.

While any adverse developments which may arise this week before the petroleum code goes into effect will probably be of brief duration, the possibility of a serious break downward in refiners' prices cannot be ignored. The fact that refiners have been running crude oil to stills at a high level so that gasoline stocks have grown rather than declined in normal fashion, gives us a situation in which a tremendous flood of gasoline is being held back by the apparent certainty of a sharp price advance.

Retail Postings Advance

Standard Oil Co. (Indiana), effective August 26, advanced the gasoline tank wagon and service station postings on all grades throughout its territory without exceptions, half a cent a gallon. The advance followed the posting of a 10-cent per barrel advance in crude oil by its subsidiary, Stanolind Crude Oil Purchasing Co. E. G. Seubert, president of the parent company, made the following statement at the time of the retail advance: "We are encouraged by the prospects for better control of crude production when the oil code becomes effective in the near future. We are hopeful that the situation in the wholesale and retail markets will permit the better price for crude to be earned." Other companies met the retail advances, while certain crude oil purchasers advanced their postings 15 to 25 cents a barrel.

Seek Code Clarification

The petroleum code continues to be the only subject, apparently, which will hold the attention of refiners and marketers in the Chicago district for more than three minutes. The promise of self-regulation in the industry has been taken seriously by refiners and marketers who class themselves as independents, and at a recent meeting in Chicago in which 20 state associations were represented by officials or their proxies, a list of proposed revisions in the code was drawn up and forwarded to General Johnson for his consideration. Important revisions sought by the independents are as follows:

Under Article 5, Rule 3, Paragraph 7, it is suggested that the text following the semicolon at the end of the paragraph be deleted. The part to be stricken is: "except that commercial consumers may secure gasoline, motor fuel and other oils, on contract quantity basis under conditions established by the planning and co-ordination committee." Such deviations from posted prices, the independents gathered contend, would lead to abuses and rank price discrimination leading to demoralization of the price structure. Under the same article, Rule 4, banning sale below cost of production, it is suggested that "below average cost" be substituted for "below cost," and that "or invoice cost" be added after the word "importation" in the same line. It is also asked that the period at the end of the paragraph be changed to a comma and the clause "within a reasonable period of time not exceeding 30 days," be added. There is considerable comment on this rule. According to these marketers and refiners, "this rule attempts to bring a prohibition upon the sale of products below cost, but fails to provide a formula for adopting (correct) such costs and it is our contention that without such a formula, we are in a dangerous position."

The disadvantage of a majority of "independents" is pointed out by these marketers and refiners thus: "If the price of gasoline, for example, should be fixed at, let us say, 5 cents a gallon, f.o.b. Group 3 refinery, under powers granted by the President, then the independent distributor in the Chicago area would have an additional (sic) cost of 5 cents, plus the freight of 2.44 cents, or in other words, a figure of 7.44 cents a gallon to which must be added his marketing costs, and under this rule, he would be prohibited from selling for any figure less than this, except during temporary periods when he desired to meet competition at a lower price. The major companies, with their pipe lines and barges, would have the advantage of lower costs."

It is urged, therefore, that "the cost referred to shall be the average and fair wholesale market price of the product at the normal source of supply in the particular market, together with existing freight rates and a fair average cost for marketing." Another important revision sought comes in Rule 22, in connection with the ban on burner service by oil sellers. These operators ask that the possibility of freezing outlets to one source of supply be eliminated by deleting the following from the text: ". . unless a fair and reasonable charge is made for such service, which in no event shall be less than $10 per year and an additional charge made for the replacement of any parts at not less than their reasonable cost." And also the following is asked to be omitted, ". . . unless there is a contract between such refiner, distributor, jobber, wholesaler or retailer and a dealer, distributor, or manufacturer of oil burners providing for the payment of a commission to the latter for the sale of heating oils and fuel oils to oil burner users where such sales are evidenced by signed contracts." Another change sought in the article is in Rule 2, and calls for the insertion of "heating oils" in the list of products named.

Tank Car Prices Advance

Gasoline tank car prices Monday were up a quarter of a cent, as were special naphthas. Kerosenes advanced an eighth of a cent, and distillates moved up to the highs of last week's range. U.G.I. gas oil is in good demand and scarce, the price range widening to 1½ to 1¾ cents. Fuel oils were stationary, price-wise, although most of the sources have practically withdrawn from the open markets.

The retail advance Saturday effectively stopped what was beginning to develop into a scramble to get rid of gasoline. Low octane gasoline on the day before was being offered freely at 3¾ cents for resale, and a few cars of better grade material were going at this price. Most of the material now sold has an endpoint of 420° or better, and in the higher octane grades, little is offered which is not 400° endpoint or better.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

August 30, 1908

The Supreme Court of Oklahoma decides that Attorney General West proceeded without authority when he filed suit against the Prairie Oil & Gas Co. without instructions from the governor. Mr. West sought to stop the Prairie company from doing business until it had taken out an Oklahoma charter. There is now nothing in the way of the company putting through its contemplated extensions of its pipe line system to New Orleans by the way of Arkansas and through the Louisiana fields.

The Pure Oil Co.'s tanker "Purelight" makes its trial trip from an English shipyard.

The Gypsy Oil Co. buys the Indiahoma Oil Co.'s holdings in the Glenn Pool in Oklahoma. Greenlees and Bishop of Lawrence, Kans., constitute the Indiahoma Oil Co.

20 Years Ago

September 4, 1913

Thomas P. Byron, oil producer, world traveler and writer of adventure stories in leading American and English magazines, is killed in an automobile accident near St. Mary, Pa.

E. Constantin, Oklahoma refiner, at a hearing before the Oklahoma Corporation Commission, testified that he pays 5 to 10 cents premium over the posted price for crude oil; recovers 8 per cent gasoline and 24 per cent kerosene, selling the residue as fuel oil; gets 9½ to 11½ cents per gallon for his gasoline and sells the kerosene at whatever he can get, as it is a drug on the market. He says Glenn Pool crude runs 16 per cent gasoline in the summer and 18 per cent in the winter, and that Cushing crude runs 32 per cent gasoline in the summer and 35 per cent in the winter.

Valerius & McNutt, geologists and mining engineers, a recently formed partnership, have opened offices in Tulsa.

F. L. Blackmar, prominent as an oil attorney in the Eastern fields, dies in Sistersville, W. Va. He was an oil producer in West Virginia.

10 Years Ago

August 30, 1923

The Powell Field in Texas is producing 155,000 bbls. per day, about half of its potential.

A 36,000,000-foot gasser is opened up by the Star Oil Co. in the Union district, Ritchie County, West Virginia.

J. P. Laney has been appointed secretary of the Texas division of the Mid-Continent Oil and Gas Association.

Osage Indians receive $4,000 per headright in the three months ending June 30. There are 2,229 headrights in the tribe. Some members of the tribe own more than one headright.

Attorney General Keeling of Texas brought suit to restrain the Humble Oil & Refining Co. from doing business in Texas, alleging that it is more than 50 per cent owned by the Standard Oil Co. (New Jersey) and therefore is in violation of the Texas antitrust laws.

John J. McLaurin, veteran oil historian and oil field correspondent, dies in Franklin, Pa., aged 82 years. He was the first traveling correspondent of the Oil City Derrick. One of his books, "Sketches in Oil," ran through several editions.

J. R. Leonard, president of the Devonian Oil Co., dies in Los Angeles, Calif., at the age of 75 years. He was the father of Archie W. Leonard of Tulsa, general manager of the Devonian Oil Co. and of the Oklahoma Natural Gas Corp.

Refiners and producers of Pennsylvania Grade oil will meet in Pittsburgh, August 31, to organize the Pennsylvania Grade Crude Oil Association.

Pure Oil Co. secures an option on all the properties of the Humphreys Oil Co. It already owns 25 per cent of the company. Col. A. E. Humphreys' interests are valued at $30,000,000, and other stockholders can sell at the same price per share Colonel Humphreys receives. The Humphreys company has 60,000 bbls. per day production in the Mexia, Powell and Currie Pools, in Texas.

XUM

Extension Well in McMillan Pool Increases Tests; Discovery Northwest of the Bulcher Pool

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 28.—B. C. Mann and others, who brought in a 520-bbl. extension to the McMillan Pool, Runnells County, last week, have filed notice of intention to drill seven more tests on their 75-acre lease in that area. However, it may be some time before the next test is spudded on the lease.

Golding Petroleum Co. has offset the extension well on the south, and Joe Simmons and others' No. 1 H. E. Wade, in Subdivision 8, of the N. Travis Survey, 1 mile to the northwest, is preparing to drill ahead from 150 feet where it has been standing shut down to do some work on cellar and derrick. This test will be an exceptionally interesting one due to its location. Some are of the opinion this pool may be extended considerable length to the northwest, dry holes having hemmed in production on all other sides.

Major companies are paying only slight attention to this area, but if another good well or two is completed attention will be attracted to the 44 gravity producing pool. The pool was discovered in 1927 with but three small wells completed, two of which were later abandoned.

Ector County

The test of the Moran Drilling Co. on the R. W. Smith ranch in Section 12, Block 43, Township 1n, T.&P. Survey, Ector County, is still shut down waiting on casing. Total depth is 4,370 feet. It filled 1,200 feet with oil in 72 hours, but scouts from the field doubt whether it will make a well. Deeper drilling may increase the amount of oil to the extent it will make a pumper if not a flowing well. It is approximately 2½ miles southeast of the nearest producer on the Cowden ranch.

Humble Pipe Line Co. completed 24 miles of 6-inch pipe and began running oil from the Cowden and Addis area wells during the week. This line was laid from the Penn Pool, to the southwest, where the Humble Pipe Line Co. has an outlet tying into a line running from Winkler County to McCamey. It is taking 200 barrels daily from each of the 7 wells in the two areas. This is the first pipe line outlet, although a short line has been serving the Harrison and Turner discovery well on the Addis ranch, connecting with a loading rack on the T. & P. Railroad. This new line may result in increased activity in both areas, and in drilling on acreage lying between the two producing areas.

Reeves County

Merry Brothers and Perini and others abandoned their No. 1 H. H. Johnson in Section 5, Block 4, H.&T.C. Survey, Reeves County, after failing to make a producer when plugged back from 4,688 to 4,400 feet and given a shot where the test had an oil and gas showing between 4,329-4,381 feet. The associates have a block of approximately 10,000 acres around this test and intend to drill a second test on the block before giving it up as condemned by this first failure.

Yates Pool

There are seven active operations in the Yates Pool, Pecos County, with three other locations slated to be drilled immediately. This is the first activity in the field in many months, and is due to Fred Turner, Jr., winning four vacancy strips in the heart of the field and starting operations on them. Sproles and Oneal, receivers for the Turners, are carried as the operators. Starting of new tests on the vacancy strips has resulted in the Mid-Kansas Oil & Gas Co., offset lease holder, to drill two wells and stake locations for two others.

Bryant and Eppenauer are rigging up to drill on a 9.37-acre tract in what was originally the NE cor., Section 33, Block 194, G.C.&S.F. Survey. This acreage was formerly held by the Mid-Kansas Oil & Gas Co. Three other tests will be drilled on this small tract.

WICHITA FALLS

Seitz, Comegys & Seitz, Inc., and Continental Oil Co., holding leases on a block of approximately 1,200 acres lying nearly 4 miles northwest of the Bulcher Pool, Montague County, showed up this week as opening a new pool.

The test drilled the upper Bulcher sand from 1,575-85 feet with a 25-bbl. show of oil. It drilled lime from 1,609-11 feet and into the lower Bulcher sand at 1,611-16 feet shutting down at the latter depth to set 6⅝-inch liner with a packer and make a test. It swabbed 10 bbls. of 40 gravity oil per hour when shut down, making considerable gas and is estimated to be good for 150 bbls. a day.

The Bulcher Pool produces wells ranging from 50 to 800 bbls. per day, the lower pay considered as the better. The pool has been producing for about nine years and is just across the county line in Cooke County.

Stanolind Pipe Line Co. has a line within a quarter of a mile of the discovery and may connect with it. Location of the test is near the center of the north line of the Ed O'Connor Survey, Abstract No. 580, on the S. J. Holt farm.

Pipe line runs from the Wichita Falls district for the week ending August 26 averaged 51,170 bbls. per day, an increase of 333 bbls. per day over the previous seven-day period.

PANHANDLE

Pipe line runs from the Panhandle district fell from 49,270 bbls. per day to 47,660 bbls. per day this week, the decline probably a result of some of the smaller operators storing their oil awaiting better prices.

Humble Oil & Refining Co. has been soliciting more connections in the Panhandle district, where local refineries demand around 37,500 bbls. per day and major pipe lines from the district are reported to be having difficulties procuring sufficient oil to operate their lines without losses. The company has contracted with the Skelly Oil Co. to take around 3,600 bbls. per day from that company, taking the oil as the former purchaser acquires other connections and obtains another supply of crude.

COMPLETIONS IN NORTH TEXAS

Archer County

J. A. Coleman's No. 1 Prideaux, pay 666-75 feet, initial production 15 bbls., total depth 675 feet. W. B. Hamilton's No. 2 Abercrombie, dry and abandoned, total depth 1,472 feet. Jesse Lincoln's No. 3 Ray, oil sand 1,118-31 feet, initial production 55 bbls., total depth 1,131 feet. W. E. Maxson's No. 2 F. C. Green, pay 1,112-24 feet, initial production 10 bbls., total depth 1,124 feet. Norwood & Brashear's No. 1 Davis, dry and abandoned, total depth 1,053 feet. Rancho Oil Co.'s No. 3 Prideaux (recompleted), oil sand 649-57 feet, initial production 17 bbls., total depth 662 feet, plugged back to 659 feet. J. C. Roby's No. 1 Peters, dry and abandoned, total depth 735 feet. Shappell Oil Co.'s No. 7 Portwood, dry and abandoned, total depth 1,381 feet.

Jack County

Texas Plains Oil Co.'s No. 1 Terrell, dry and abandoned, total depth 817 feet.

Grayson County

Barton & Combest's No. 1 Chiles, dry and abandoned, total depth 1,000 feet.

Wichita County

J. E. Jones' No. 5 Jennings, dry and abandoned, total depth 870 feet.

Wilbarger County

Barkley & Meadows' No. 1, dry and abandoned, total depth 1,189 feet. Fain & McGaha's No. 6 Waggoner, dry and abandoned, total depth 801 feet. L. C. Webb's No. 1 Waggoner, oil sand 1,884-93 feet, initial production 54 bbls., total depth 1,893 feet.

Young County

Bridwell Oil Co.'s No. 1 Culler, dry and abandoned, total depth 613 feet. Hy Oil Co.'s No. 9 Larimore, oil sand 699-708 feet, initial production 60 bbls., total depth 708 feet. Pitzer and West's No. 2 Williams, pay 3,848-3,909 feet, initial production 175 bbls., total depth 3,909 feet. Texas Co.'s No. 2 Jeffery, dry and abandoned, total depth 851 feet. R. J. Watson's No. 1 Stringer, dry and abandoned, total depth 700 feet.

COMPLETIONS IN RANGER

Brown County

Petroleum Interest Inc.'s No. 1 Mrs. T. S. Williams, show gas 1,455-57 feet, initial production 10 bbls., total depth 1,464 feet. S. B. Owens' No. 6 Lynch, pay 1,264-78 feet, initial production 125 bbls., total depth 1,278 feet.

Callahan County

C. B. Holmes' No. 1 I. N. Jackson, dry and abandoned, total depth 1,182 feet. Sweeney and others' No. 1 Finley, dry and abandoned, total depth 550 feet.

Coleman County

Centennial Oil & Gas Co.'s No. 1 W. D. Allen, gas sand 1,113-20 feet, initial production 8,500,000 feet of gas, total depth 1,120 feet.

Comanche County

E. P. Knott and others' No. 1 Scott and Utterback, dry and abandoned, total depth 3,669 feet.

Eastland County

Ed Klough's No. 1 M. Newman, dry and abandoned, total depth 3,775 feet.

Palo Pinto County

O. P. Coffin's No. 1 R. T. Goen, dry and abandoned, total depth 770 feet. L. C. Owens' No. 1 Hattie Stages, pay 2,995-3,008 feet, initial production 6,650,000 feet of gas, total depth 3,041 feet.

Shackelford County

Gilman and McMurray's No. 2 Mathews, show oil 783-84 feet, initial production 20 bbls., total depth 789 feet.

COMPLETIONS IN WEST TEXAS

Concho County

J. M. Simmons' No. 1 Schultz, dry and abandoned, total depth 1,500 feet.

Jones County

F. E. Shaheen's No. 1 Sandlin, dry and abandoned, total depth 1,929 feet.

Howard County

Joe Rusk and others' No. 1 G. M. Dodge, top pay 2,634 feet, initial production 18 bbls. per day pumping, total depth 2,834 feet.

Reeves County

Merry Brothers & Perini's No. 1 H. H. Johnson and others, total depth 4,688 feet, plugged back to 4,400 feet, slight show of oil at 4,334-61 feet, shot with 220 quarts 4,329-80 feet, no results, dry and abandoned.

COMPLETIONS IN PANHANDLE

Gray County

Denworth Oil Co.'s No. 1 Webb, pay 2,591-2,639 feet, shot with 190 quarts, initial production 105 bbls. per day, total depth 2,639 feet. Gulf Production Co.'s No. 3-A Catlin, shot with 250 quarts from 3,035-3,135 feet, initial production 531 bbls. per day on railroad commission test, total depth 3,135 feet. Parton & Holt's No. 2 Morse, pay 2,065-2,160 feet, initial production 4 bbls. oil daily flowing, total depth 2,635 feet. Phillips Petroleum Co.'s No. 1 Wood (old well drilled deeper), old total depth 2,850 feet, new total depth 2,910 feet, initial production 140 bbls. of oil and 38 bbls. of water daily on railroad commission test; No. 5 Wood (old well drilled deeper), old total depth 2,875 feet, new total depth 2,912 feet, initial production 123 bbls. daily on railroad commission test.

Wheeler County

Martin & Dubose's No. 1 Grogan, pay 1,436-1,568 feet, initial production 111,000,000 feet of gas, total depth 1,560 feet. Stuckeu Construction Co.'s No. 1 Koons, pay 2,280-95 feet, initial production 35 bbls. flowing through braden head, total depth 2,329 feet.

Wildcat Operations in West Texas

Week Ending August 28

Company, well, farm name, section and block—	Remarks:
CONCHO COUNTY	
Mintex Oil Co.'s No. 2 Waring Estate, 660 ft. from N line, 150 feet from W line SW ¼ Sec. 2120, A. T. Robinson Sur.	Drlg. 1,047 ft.
CRANE COUNTY	
Loffland Bros.' No. 1 Tubbs, 1,334 ft. from N line, 1,320 ft. from W line, Sec. 9, Blk. 27-B. P.S.L. Sur.	Drlg. 1,910 ft.
DAWSON COUNTY	
Ray Albaugh et al's No. 1 John Robinson, 132 ft. from N. line, 132 ft. from W line Sec. 46, Blk. M, E.L. R.R. Sur.	S.D. 1,475 ft.
ECTOR COUNTY	
Broderick & Calvert et al's No. 1 E. F. Cowden, 2,240 ft. from E line, 330 ft. from S line of Sec. 25, Blk. 44, Twp. 2s, T.&P. Sur.	Drlg. 2,010 ft.
Gilpen et al's No. 1 B. H. Blakeney, 330 ft. from S and 440 ft. from E line of Sec. 32, Blk. 43, Twp. 1n, T.&P.R.R. Sur.	Rig up.
Landreth Production Co. & Llano Oil Co.'s No. 1 O. B. Holt, 660 ft. from S and W lines of N half of Sec. 20, P.S.L. Sur.	Drlg. 1,855 ft.

(Continued on Page 47)

Restrictions Tightening in the East Texas District; Survey of Pumping Wells Now Under Way

By L. E. BREDBERG

DALLAS, Tex., Aug. 28.—Proration restrictions continue to tighten in East Texas. During the week J. Howard Marshall was appointed by the Federal Government to prosecute overproduction and interstate shipments of illegal oil cases in the district. A three-judge federal court refused two operators an injunction restraining the Texas Railroad Commission from enforcing proration, and the Federal Government is increasing its force of investigators in the field to run down complaints of overproduction and shipments of such oil. Cases against operators and pipe line companies are expected to be filed in Tyler in the near future by the federal men.

Inquiry on Pumping

William Knode, petroleum engineer for the Railroad Commission, has started an investigation of all pumping wells in the field to get data on the cost of pumping in this field, the amount of paraffin formed, and other pertinent facts on such wells. This investigation comes as an aftermath of the hearing held at Austin last week by the Railroad Commission on application of the Jenkins Oil Corp. of Dallas which stated that the company was suffering a loss through its pumping wells having a daily allowable of only 20 bbls. per day because of excessive accumulation of paraffin in the wells at this low rate of production.

The survey is of utmost importance due to the fact that all fields will probably have their daily allowables cut under the new oil code, and that if the same 400 pumpers in East Texas were given a higher allowable it would be more difficult to reprorate that field and cut the allowable. If the commission grants one pumping well a higher allowable it will have to give them all an increase. The former daily allowable of marginal wells in the field was 40 bbls., as it is in the majority of areas in Texas.

The paraffin accumulation is greatest around the 800-foot level where a fresh water sand cools the oil, allowing the paraffin to accumulate at this level and causing difficulty in pumping and a concurrent increase in cost of pumping. Other companies state that they pump their daily allowable as quickly as possible and are having no paraffin troubles, the faster rate of pumping preventing paraffining of the wells.

Jenkins Oil Corp. has 15 pumping wells in the field. Other operators intervened in the case increasing the number of wells in question to almost half of the number now on the beam in the field.

Back Allowable

The Railroad Commission has announced that further production of back allowable oil will not be granted. This puts an end to the controversy on back allowable which formerly gave the field men of the commission plenty of trouble, and until the commission rescinded its order granting permits to companies to produce oil which they claimed was held in the ground during the 10-cent price period or during other times of stress in the field. Many operators and companies filed applications for permits to run back allowable giving all kinds of reasons why they should be granted permits. These started coming in to the commission so fast it had to withdraw its order. This withdrawal has been extended several times until this week when it apparently was made permanent.

The two operators who were refused an injunction by a three-judge Federal court at Houston this week had sought an injunction which would have granted them the privilege of making up "back allowable," which they said was due them in face of an offset company having withdrawn 400,000 bbls. from its lease above their production and when they could not compete with the offset withdrawals.

Effect of Federal Action

Some of the pipe line companies operating which have been under surveillance by Federal investigators have ceased operations for the time being. This is thought to be done in an effort to influence the Federal authorities to drop any proposed action against the companies.

Over a third of the refineries in the field are still shut down and as the majority of them do not have cracking units they will not be able to manufacture the 60-64 octane grade of crude named as the basis for determining crude values under the general oil code. They have been manufacturing a great part of the third grade gasoline marketed in the State and are not in position to pay the present and higher prices for crude and compete with the more efficient plants which have cracking units and make the higher grade motor fuel.

No doubt some of the refineries are still operating on stored crude produced in excess of the allowable and before the President issued an order against interstate shipments of illegally produced oil, but they are taking care not to ship any of it over the state line. The railroads in the district are refraining from carrying any refined products without the proper Railroad Commission tenders. Only 731 bbls. of oil per day was shipped out by rail during the week ending August 24. These shipments also included some refined products.

On September 1 a state law will go into effect making it a felony to produce oil in violation of the Railroad Commission's orders. Conviction is punishable by fines ranging from $500 to $5,000 and by a sentence of two to four years in the penitentiary in case of a second offense.

The two most important tests in East Texas during the past few weeks have been Shell Petroleum Corp. and others' No. 1 Beggs, and Bateman Drilling Co. and others' No. 1 Carlisle, both in Leon County, but fishing jobs have put them in second and third places while the Tide Water Oil Co. and Texas Seaboard Oil Co.'s test on their Long Lake Plantation block in southwest Anderson County increases in interest, with the majority of the geologists feeling it is running high and having good chances for making a producer. The mentioned Shell test is still at 5,593 feet and the Bateman Drilling Co. and others' test is at 5,957 feet.

J. O. Griffith of Fort Worth has made location on the Bruce and Gibbard 134-acre tract in the G. Martinez Survey, 5 miles northeast of Wills Point in Van Zandt County, for a Woodbine sand test. Derrick is being erected. This test is in an area somewhat remote from any other test and will be of considerable interest. The geology was worked by Roy Reynolds and Ford Bradish. Mr. Griffith assembled a block of approximately 6,000 acres for this test.

Laco Oil Co. is building rig for its No. 1 John Martin, in the Robert C. Morris Survey, Henderson County, and I. W. Lewis and others have spudded their No. 1 David Clark in the S. Edens Survey in Kaufman County. F. A. Seweiser and others have spudded their No. 1 fee in the A. Vincent Survey, Limestone County.

B. F. Traywick and others have made location for their No. 1 M. Vaughn, 2 miles northwest of Big Sandy in the P. B. Standifer Survey, Upshur County.

There was more activity in staking and spudding wildcat locations this week than for some time. No wildcat completions were reported.

Locations and Completions

There were 59 locations staked in the East Texas Field while 58 wells were carried on the completion report. The location report showed a drop of 22 under last week's report. There are now 10,480 producers in the East Texas Field.

There are six seismograph crews and one torsion balance crew working in East Texas, scattered over various counties. Humble Oil & Refining Co. has two seismograph crews working in Anderson County and a G.S.I. crew is working 5 miles west of Elkhart in the same county.

Independent Exploration Co. has a crew shooting just west of LaRue in the Phillips Jackson Survey, Henderson County.

Gulf Production Co. has a seismographic crew working in Van Zandt County. Shell Petroleum Corp. also has a crew exploring this county, working southwest of the Van Field.

Old Glory Oil Co. has a torsion balance crew working near the town of Summerfield in Cherokee County.

McElreath and Suggett and others' (Pure Oil Co.) No. 1 fee, in the William Wyche Survey, second test for this area in Henderson County, has plugged back from 4,986 feet to the top of the Woodbine sand at 4,190 feet and will test a gas showing here. Georgetown lime was topped at 4,983 feet. Elevation is 383 feet.

There are now 440 wells in East Texas showing various amounts of salt water, the majority in the Gladewater, Kilgore, Overton and London areas. Eleven wells are showing fresh water which is coming through defective casing. Salt water wells showed a considerable increase during the past six weeks, adding about 70.

Royalties have been steadily increasing in East Texas, principally due to the Federal Government stepping in to aid in enforcing proration; bottom hole pressures showing but a small drop under present daily allowables, and a substantial increase in prices expected around the first of September. Royalties were formerly offered around $400 to $450 per acre whereas they have nearly doubled.

East Central Texas Wildcats

Week Ending August 28

Company, well, farm name, section and block—	Remarks:
ANDERSON COUNTY	
Tide Water Oil Co. and Seaboard Oil Co.'s No. 1 Long Lake Plantation, 3,700 ft. due S of S cor. of Tom Reeves estate, 97-ac. tract, Simon Sanches Sur.	Drlg. 3,621 ft.
BOWIE COUNTY	
R. W. Lynn and W. R. Rolfe's No. 1 Mrs. R. D. Hart, 330 ft. out of NE cor. of Hart 20-ac. tract, 1 mile E of Nash, Thomas Price Sur.	Location.
Lee Timberlake et al's No. 2 Tidwell (old well to be drilled deeper), 2,310 ft. N and 665 ft. W of SE cor. of survey, L. M. Rice Sur.	Cleaning out 3,010 ft.
FRANKLIN COUNTY	
Van Emon et al's No. 1 O. S. Maxton, 910 varas W and 910 varas S of NE cor. of survey, John Brown Sur.	Derrick.
GREGG COUNTY	
Arcadia Refining Co.'s No. 1 R. M. Wood, 100 ft. W of Republic's No. 1 Wood in Blk. No. 134, H. R. Hokit Sur.	Rig up.
Atlantic Oil Producing Co.'s No. 49 Judge, 2,200 ft. from E line and 1,685 ft. S of NE cor. of lease, F. W. Johnson Sur.	Drlg. 2,890 ft.
Atlantic Oil Producing Co.'s No. 11 Andrews, 330 ft. from N and E lines of lease, William Hyde Sur.	Location.
Atlantic Oil Producing Co.'s No. 9 R. E. Whaley, 2,910 ft. from N line and 3,510 ft. from E line of survey, W. P. Chisum Sur.	Drlg. 3,519 ft.
Blake and Bradley's No. 1 Foshee Estate, 1,880 ft. W and 90 ft. S of NE cor. of Selby Blk. "C," J. R. Crosby Sur.	T D. 3,526 ft.

(Continued on Next Page)

COMPLETIONS IN EAST TEXAS

North Gregg County

Adams & Lyles' No. 6 Taylor-Anderson, top sand 3,470 feet, initial production 20 bbls. in one-quarter hour through tubing, total depth 3,495 feet. Atlantic Oil Producing Co.'s No. 20-B Burnside, top sand 3,481 feet, initial production 75 bbls. per hour through open tubing, total depth 3,544 feet; No. 52 Judge, top sand 3,490 feet, initial production 75 bbls. per hour through tubing, total depth 3,536 feet. Bay Oil Co.'s No. 5 Wheeler, top sand 3,558 feet, initial production 70 bbls. per hour through 1-inch tubing choke, total depth 3,630 feet. Continental Oil Co.'s No. 5 B. C. Todd, top sand 3,544 feet, initial production 116 bbls. per hour, total depth 3,602 feet. Cranfill & Reynolds' No. 6 Rembert, top sand 3,494 feet, initial production 85 bbls. per hour through open tubing, total depth 3,524 feet. East Texas Oil & Refining Co.'s No. 6 Castleberry, top sand 3,603 feet, initial production 72 bbls. in one-half hour, total depth 3,643 feet; No. 7 Tuttle, top sand 3 549 feet, initial production 69 bbls. in one-half hour through tubing, total depth 3,600 feet; No. 9 White, top sand 3,557 feet, initial production 62 bbls. in one-half hour through tubing, total depth 3,-610 feet. Gulf Production Co.'s No. 41 Judge, top sand 3,502 feet, initial production 70 bbls. per hour through tubing, total depth 3,552 feet.

Humble Oil & Refining Co.'s No. 15 H. M. Lawrence, top sand 3,610 feet, initial production 15 bbls. in one-quarter hour, total depth 3,644 feet; No. 6 W. C. Mackey, top sand 3,614 feet, initial production 35 bbls. per hour through three-quarters inch tubing choke, total depth 3,623 feet. Lecker & Hubbard's No. 4 McGrece, top sand 3,653 feet, initial production 38 bbls. in one-quarter hour through tubing, total depth 3,670 feet. Rancho Oil Co.'s No. 2 Johnson, top sand 3,617 feet, initial production 75 bbls. per hour through tubing, total depth 3,620 feet. Stanolind Oil & Gas Co.'s No. 3 Jones, top sand 3,594 feet,

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initial production 18 bbls. in one-quarter hour through tubing, total depth 3,675 feet.

Texas Co.'s No. 18 T. W. Lee, top sand 3,556 feet, initial production 92 bbls. per hour, total depth 3,570 feet. Tide Water Oil Co.'s No. 22 Lake Devernia, top sand 3,526 feet, initial production 21 bbls. in 10 minutes, total depth 3,555 feet. Twin Oil Co.'s No. 11 M. Bonner, top sand 3,590 feet, initial production 65 bbls. per hour through open tubing, total depth 3,599 feet. Woodley-Atlantic and Sun Oil companies' No. 6 M. Hays, top sand 3,513 feet, initial production 110 bbls. per hour through tubing, total depth 3,535 feet.

South Gregg County

Atlantic Oil Producing Co.'s No. 8 W. Smith, top sand 3,553 feet, initial production 75 bbls. per hour, total depth 3,575 feet. Canadian Oil Co.'s No. 5 Hilburn, top sand 3,648 feet, initial production 75 bbls. per hour, total depth 3,575 feet. Everetts Oil Co.'s No. 2 C. E. Muckelroy, top sand 3,531 feet, initial production 89 bbls. per hour through open tubing, total depth 3,560 feet. Gulf Production Co.'s No. 22 A. Spear, top sand 3,529 feet, initial production 77 bbls. per hour through tubing, total depth 3,554 feet. Sinclair Prairie Oil Co.'s No. 34 M. T. Cole, top sand 3,590 feet, initial production 20 bbls. in one-quarter hour through tubing, total depth 3,597 feet; No. 35 M. T. Cole, top sand 3,599 feet, initial production 57 bbls. per hour swabbing, total depth 3,608 feet; No. 32-B A. A. King, top sand 3,458 feet, initial production 30 bbls. in one-quarter hour through tubing, total depth 3,510 feet. Stroube & Stroube's No. 4 J. R. Beall, top sand 3,542 feet, initial production 50 bbls. per day by heads, total depth 3,574 feet. Sun Oil Co.'s No. 10 A. G. Morton, top sand 3,492 feet, initial production 40 bbls. per hour through open tubing, total depth 3,512 feet. Tide Water Oil Co.'s No. 14 Barton, top sand 3,615 feet, initial production 9 bbls. in 10 minutes, total depth 3,633 feet. Yeager and others' No. 1 Howard, top sand 3,535 feet, initial production 80 bbls. per hour, total depth 3,545 feet.

North Rusk County

Barnsdall Oil Co.'s No. 4 T. H. Gill, top sand 3,650 feet, initial production 82 bbls. per hour through open tubing, total depth 3,658 feet. Cordova-Union Oil Co.'s No. 3-C C. O. Christian, top sand 3,702 feet, initial production 65 bbls. per hour through open tubing, total depth 3,709 feet. East Texas Oil & Refining Co.'s No. 3 Andy Givens, top sand 3,678 feet, initial production 90 bbls. per hour through open tubing, total depth 3,700 feet. Houston Oil Co.'s No. 6-B W. J. Brightwell, top sand 3,649 feet, initial production 37 bbls. in 20 minutes, total depth 3,662 feet. Luling Oil & Gas Co.'s No. 3-B W. J. Brightwell, top sand 3,651 feet, initial production 125 bbls. per hour through open tubing, total depth 3,666 feet. Whitley Purchasing Co.'s No. 3 Brock Estate, top sand 3,648 feet, initial production 75 bbls. per hour through open tubing, total depth 3,666 feet. Tide Water Oil Co.'s No. 7 Leverett, top sand 3,635 feet, initial production 39 bbls. in one-half hour through open tubing, total depth 3,658 feet. Sam K. Vierson's No. 3-A Andy Givens, top sand 3,610 feet, initial production 111 bbls. per hour through open tubing, total depth 3,618 feet.

South Rusk County

A. P. Carey's No. 4 Ras Redwine, derrick abandoned. East Texas Oil & Refining Co.'s No. 3 Currin Barksdale, top sand 3,685 feet, initial production 20 bbls. in one-quarter hour, total depth 3,730 feet. Everett Drilling Co.'s No. 2 Cole, top sand 3,789 feet, initial production 100 bbls. per hour through tubing, total depth 3,793 feet. Falcon Oil Co.'s No. 3 Perkins, top sand 3,641 feet, initial production 75 bbls. per hour through tubing, total depth 3,663 feet. Gulf Production Co.'s No. 6 Maxwell, top sand 3,731 feet, initial production 60 bbls. per hour through open tubing, total depth 3,720 feet. H. L. Hunt's No. 7-B Sue Hale, top sand 3,697 feet, initial production 27 bbls. per day pumping, total depth 3,783 feet; No. 11 C. Young, top sand 3,694 feet, initial production 75 bbls. per hour through open tubing, total depth 3,745 feet.

Mid-Kansas Oil & Gas Co.'s No. 45 W. T. Grissom, top sand 3,632 feet, initial production 60 bbls. per hour, total depth 3,727 feet; No. 18 S. H. Moores, top sand 3,642 feet, initial production 60 bbls. per hour, total depth 3,727 feet. Tide Water Oil Co.'s No. 4 Glenn Pool, top sand 3,689 feet, initial production 80 bbls., total depth 3,728 feet. Venable and McClanahan's No. 12 J. A. Birdwell, top sand 3,626 feet, initial production 90 bbls., total depth 3,659 feet.

Smith County

Mid-Kansas Oil & Gas Co.'s No. 20 J. H. Sharp, top sand 3,659 feet, initial production 56 bbls. per hour, total depth 3,659 feet. Sinclair Prairie Oil Co.'s No. 20-A A. S. Jarvis, top sand 3,690 feet, initial production 15 bbls. in one-quarter hour through tubing, total depth 3,699 feet; No. 22-A A. S. Jarvis, top sand 3,668 feet, initial production 42 bbls. in one-quarter hour through tubing, total depth 3,682 feet; No. 19-C A. S. Jarvis, top sand 3,672 feet, initial production 31 bbls. in one-quarter hour through tubing, total depth 3,677 feet; No. 20-C A. S. Jarvis, top sand 3,675 feet, initial production 45 bbls. in one-quarter hour through open tubing, total depth 3,682 feet; No. 23-A Mayfield, top sand 3,763 feet, initial production 35 bbls. in one-quarter hour through open tubing, total depth 3,771 feet; No. 24-A Mayfield, top sand 3,794 feet, initial production 26 bbls. in one-quarter hour through tubing, total depth 3,803 feet; No. 14 D. Wright, top sand 3,730 feet, initial production 35 bbls. in one-quarter hour through tubing, total depth 3,735 feet; No. 9 R. G. Wright, top sand 3,680 feet, initial production 35 bbls. in one-quarter hour through tubing, total depth 3,692 feet.

Upshur County

Perrin and Fell's No. 3 William Landers, top sand 3,704 feet, initial production 40 bbls. in 20 minutes through open tubing, total depth 3,711 feet.

Excess Crude Output to Be Denied Shipment

(Continued from Page 9)

code except those governing production and price. On that there was such a diversity of opinion that there was nothing to do but for somebody to make a decision. Now if it is a question of debating forever we have pretty nearly done that. Everybody's views have been presented, but if we are going to get action at all somebody, sometime, must make a decision in the public interest.

Q. General, generally speaking, isn't it true that there is nothing in there that was not suggested to you by some large section of the industry?

A. Since everything under the sun has been suggested to me by some large section of the industry, I would say the answer to that is "Yes."

Q. Will the oil industry be licensed? Will you put the producers under license?

A. I am not going to invoke any licensing or penal clauses unless I have to and we are a very long way from that in the oil industry, that is, in so far as production is concerned, that code is based on the most constitutional authority of the Federal Government that there is—and that is, that while the states and people within the states may engage freely in interstate commerce, they cannot do this to the destruction of commerce among the several states; and the pouring of unmanageable quantities of oil out from states that produce great quantities into the channels of commerce has very obviously nearly ruined a great industry and threatened a great national resource. Now the answer in that oil code is that if reasonable control by the states of the matter clearly within their jurisdiction is not exercised, the Federal Government will not permit the result of that nonfeasance to pour oil into the channels of interstate commerce and that is all there is to it, and such a state can float in its own oil.

Q. General, you do not want any of these major industries to get the idea that you are going to hesitate to invoke that right?

A. Not in the least, but we have tried to move here on the theory that this country is acting together—that these industries will be allowed to govern themselves. We maintained from the very beginning that these powers in the law were for the purpose of disciplining recalcitrants in a great national co-operative movement and when the time comes to use that discipline those powers will be used, but I will wait for the event and the occasion before I will even talk about it.

Q. Do you think the oil industry is the most likely to go forward of the basic industries, without delay?

A. I think so, because while the situation seems very complex it really isn't as complex as it seems. Regulation of production in the State of Texas alone would be sufficient regulation without going further—that is, in regard to supply and demand in the oil industry.

Q. General, is it fair to ask you who wrote that price section? Section 6?

A. I did. But I don't call Section 6 a price-fixing section. All Section 6 does is it hitches the price of crude to the price of gasoline.

Q. If one goes up the other must, too?

A. That is right.

Q. Did Ernest Thompson, of the Texas Railroad Commission, say that the Texas commission could not accept the production section as written, and if he did, does it mean anything?

A. He said there were two words that were a violation of the Texas law, and since those words did not change the meaning of the section we are going to amend them in accordance with the Texas law.

Q. What difference does it make about the Texas law?

A. Because there is a conflict of jurisdiction and we will leave it to the State. The allocation is recommended to the State rather than being imposed upon it. There is a very nice legal question involved there that I do not think this is the proper place to discuss.

ROCKY MOUNTAIN RUNS

Estimated daily production for the week ending August 26, follow:

	Bbls.
WYOMING	
Salt Creek	17,130
Big Muddy	1,800
Badger Basin	40
Byron-Garland	870
Byron-East	Shut in
Dallas Derby	500
Dutton Creek	70
Elk Basin	540
Ferris	20
Frannie	200
Grass Creek	Shut in
Greybull	10
Hamilton Dome	830
Hudson	230
LaBarge	940
Lance Creek	230
Lost Soldier	1,800
Mule Creek	Shut in
Midway	70
Notches	Shut in
Oregon Basin	1,070
Osage	500
Pilot Butte	30
Rex Lake	30
Rock River	1,130
South Casper	700
Poison Spider	90
Teapot	20
Warm Springs	Shut in
Total	28,850
MONTANA	
Buckley-Border	390
Cat Creek	730
Cut Bank	720
Dry Creek	120
Kevin-Sunburst	3,590
Lake Basin	50
Pondera	820
Total	6,420
COLORADO	
Florence	220
Fort Collins and Wellington	570
Iles Dome	560
Moffat	620
Orchard	130
Rangely	50
Tow Creek	240
Total	2,390
NEW MEXICO	
Artesia	590
Cooper area	70
Empire area	0
Eunice area	930
Getty Pool	0
Hobbs	33,530
Hogback	210
Hospah	Shut in
Jal	1,630
Lea area	2,180
Jackson	960
Maljamar	230
Rattlesnake	110
Table Mesa	80
Total	40,520
Total all fields	78,180
Total previous week	79,980
Difference	1,800

East Central Texas Wildcats

(Continued from Preceding Page)

East Texas Refining Co.'s No. 3 D. G. Sparks, 330 ft. from W line of lease and 660 ft. SE of No. 1, H. Kirk Sur. ... Swabbing; T.D. 3,676 ft.

East Texas Refining Co.'s No. 9 Hindman and Guy, 5,570 ft. from S line and 3,870 ft. from W line of survey, G. W. Hooper Sur. ... Waiting on cmt. to set 3,650 ft.

Joe Edgar's No. 2 Todd-Stinchcomb, 79 ft. N along W line of Stanolind's Key tract, W. Hart Sur. ... Waiting on cmt. to set 3,523 ft.

Foundation Oil Co.'s No. 4 L. Willis, 299 ft. from N and E lines of 13.47-ac. tract, G. W. Hooper Sur. ... Waiting on cmt. to set 3,615 ft.

Goodwin et al's No. 3 Johnson, 300 ft. E of Katter & Manzell's No. 1 Church, M. Dillard Sur. ... Testing; T.D. 3,615 ft.

Gulf Production Co.'s No. 40 J. C. Judge, 5,060 ft. S and 3,350 ft. W of SW cor. of W. C. Alvice Sur., F. W. Johnson Sur. ... Waiting on cmt. to set 3,536 ft.

Houston Oil Co.'s No. 4 E. W. Clemments, 120 ft. N and 330 ft. E of SW cor. of lease, Carl Rhodes Sur. ... Drlg. 2,640 ft.

Island Oil Co.'s No. 2 W. Williams, 200 ft. from S line and 980 ft. from E line of survey, G. F. Penn Sur. ... Rig up.

Leckner and Hubbard's No. 2 Doby, 4,400 ft. from N line and 4,320 ft. from E line of survey, W. H. Castleberry Sur. ... Location.

Magnolia Petroleum Co.'s No. 5 Nicholson, 330 ft. from S and E lines of lease and 2,500 ft. from N line and 7,680 ft. from W line of survey, D. Sanches Sur. ... Drlg. 3,420 ft.

Magnolia Petroleum Co.'s No. 11 O. F. Smith, 583 ft. E of No. 10 and 583 ft. NW of No. 2, H. Edwards Sur. ... Waiting on cmt. to set 3,556 ft.

Payne et al's No. 1 Swain Holcomb, 1,980 ft. from S line and 1,170 ft. from W line of survey, H. R. Hokit Sur. ... T.D. 2,558 ft.; plugged back to 1,500 ft.

Hiram Reed et al's No. 2 Rodger Lacy, 4,510 ft. from N line and 3,800 ft. from W line of survey, M. V. Winkle Sur. ... Testing; T.D. 3,589 ft.

Rhoads Drilling Co.'s No. 5 Sabine River (Tract No. 4), 3,490 ft. from W and 510 ft. S of NW cor. of W. C. Alvice Sur. ... Waiting on cmt. to set 3,536 ft.

Rosier and Pendleton's No. 7-A Nicholson, 2,050 ft. from N line and 330 ft. from E line of survey, M. Mann Sur. ... Waiting on standard rig; T.D. 3,676 ft.

Rowan and Nichols' No. 4-A Todd, 170 ft. from W line and center of N and S lines of 25-ac. tract, W. H. Castleberry Sur. ... Running csg.; T.D. 3,541 ft.

Sabine Oil Co.'s No. 3-A Falvey, 330 ft. from N and E lines of 25.7-ac. lease, M. Mann Sur. ... Location.

Shasta Oil Co.'s No. 3-B G. W. Richey, 150 ft. from W line and 318 ft. from S line of lease, C. Rhodes Sur. ... Drlg. 2,402 ft.

A. L. Slaughter's No. 1 R. B. White, 480 ft. from N line and 30 ft. from E line of survey, C. H. Alexandria Sur. ..... Skidding 65 ft. N; T.D. 2,871 ft.
Snowden and McSweeney's No. 4 M. Bonner, 382 ft. from S line and 1,046 ft. from W line of survey, M. McRae Sur. ..... Swabbing 3,590 ft.
J. B. Sowell's No. 5 W. P. Luce, 660 ft. W of No. 2, E. L. Walker Sur. ..... Bldg. derrick.
Sun Oil Co.'s No. 12 J. W. Akin, 660 ft. from Nos. 5 and 6 and 330 ft. from S line of lease, William G. Painter Sur. ..... Drlg. 3,350 ft.
Sun Oil Co.'s No. 9 A. S. Morton, 330 ft. from N and W lines of lease, S. Baggett Sur. ..... Drlg. 2,075 ft.
Sun Oil Co.'s No. 5 J. T. Elder, 330 ft. from W line of lease and 660 ft. S of No. 4, John Wilkerson Sur. ..... Location.
Tide Water Oil Co.'s No. 9 M. B. Hughey, 914 ft. from N line and 1,173 ft. from E line of lease, J. Hillard Sur. ..... Drlg. 1,375 ft.
Wheelock and Collins' No. 7 Clayton heirs, 150 ft. from S line and 1,290 ft. from E line of survey, L. B. Outlaw Sur. ..... Testing; T.D. 3,538 ft.

HENDERSON COUNTY

Campbell and Champlin's No. 1 R. S. Ansley, 108 varas S and 623 varas W of NE cor. of lease, 6 miles SE of Buffalo, N. H. Thompson Sur. ..... Derrick.
Laco Oil Co.'s No. 1 John Martin, 400 ft. from N line and 350 ft. from E line of 109-ac. tract, Robert C. Morris Sur. ..... Bldg. derrick.
McElreath and Suggett et al's No. 1 Ferguson, 330 ft. out of most southerly NW cor. of 252.8-ac. tract, William P. Wyche Sur. ..... S.D. 4,992 ft.
Roeser & Pendleton's No. 1 L. R. Billett, 330 ft. from N line and 2,310 ft. from E line of survey, Cecil Bobs Sur. ..... Rig up.

HOPKINS COUNTY

Culberson & Lynch's No. 1 Louis Stribling, 150 ft. from NW cor. of tract and lease, Thomas Norris Sur. .... Rig up

KAUFMAN COUNTY

I. W. Lewis et al's No. 1 David Clark, 2,305 ft. from S line and 1,052 ft. from E line of 320-ac. tract and survey, S. Edens Sur. ..... Spudding.
J. M. Scott et al's No. 2 Pannill, 2,550 ft. from NE line and 6,000 ft. S of Texas Midland Railroad, A. Cherino Sur. ..... Drlg. 2,905 ft.

LEON COUNTY

Bateman et al's No. 1 A. C. Carlyle, 150 ft. out of NE cor. of survey, Mary Elem Sur. ..... Made drill stem test from 5,945-55 ft.; tested 15 ft. mud in 15 min.; now fishing for drill stem.
Shell Petroleum Corp.'s No. 1 Beggs, center of 123.5-ac. tract, John Carter Sur. ..... Fishing; T.D. 5,593 ft.

LIMESTONE COUNTY

C. C. Curtis et al's No. 1 Emma Daniels, 150 ft. from W line and 150 ft. from S line of 42.5-ac. tract in Pedro Varela Sur. ..... Waiting on cmt. to set 60 ft.
F. A. Scweizer et al's No. 1 fee, 1,000 ft. from S line and 600 ft. from W line of 115-ac. tract, north part of county, A. Vincent Sur. ..... Spudding 300 ft.

RUSK COUNTY

Barnsdall Oil Co.'s No. 5 T. H. Gill, 500 ft. S of No. 4 and 1,250 ft. from N line and 2,600 ft. from E line of survey, R. W. Smith Sur. ..... Spudded.
East Texas Refining Co.'s No. 10 D. Wills, 40 ft. W and 306 ft. S of SE cor. of Stanolind Beall lease, W. P. Chisum Sur. ..... Lost hole; Skidded 50 ft. W.
East Texas Refining Co.'s No. 4 Giles, 3,450 ft. from N line and 1,580 ft. from E line of survey, M. J. Pru Sur. ..... Moving in material.
Houston Oil Co.'s No. 6 S. S. Laird, 2,850 ft. from N line and 920 ft. from E line of survey, I. Ruddle Sur. ..... T.D. 3,286 ft.
Jordan & Ramsey's No. 1 L. W. Prior, 820 ft. from N line and 607 ft. from E line of 53-ac. lease, Walker Pettit Sur. ..... Coring 3,602 ft.
Magnolia Petroleum Co.'s No. 11 C. C. Still, 330 ft. from N line of lease and 762 ft. E of No. 10, M. McCabe Sur. ..... T.D. 3,548 ft.
Martin and Cockburn's No. 2 A. Thrash, 1,380 ft. from S line and 1,270 ft. from W line of survey, E. Collard Sur. ..... T.D. 3,575 ft.
Joe Marr Drilling Co.'s No. 1 M. Lee, 459 ft. S and 330 ft. W of SW cor. of Stanolind's 100-ac. Lacy tract, J. H. Sparks Sur. ..... S.D. 3,629 ft.; made two heads of 10 bbls. in 10 minutes.
Mid-Kansas Oil & Gas Co.'s No. 50 M. M. Cross, 4,500 ft. from S line and 2,190 ft. from W line of survey, J. B. De Cadena Sur. ..... Drlg. 2,690 ft.
Walker Murray et al's No. 1 W. H. Arnold, 330 ft. from S and W lines of 50-ac. tract, Levi N. Sparks Sur. ..... Waiting on cmt. to set; T.D. 3,722 ft.
Patterson Drlg. Co.'s No. 3 Brock Estate, 2,320 ft. from N line and 100 ft. from E line of survey, R. W. Smith Sur. ..... Derrick.
Shoreline Oil Co.'s No. 2 Brightwell, 700 ft. from N line and 1,560 ft. from E line of survey, R. W. Smith Sur. ..... Waiting on cmt. to set 3,591 ft.
Sinclair Prairie Oil Co.'s No. 39 Kinney, 4,120 ft. from N line and 330 ft. from W line of survey, J. B. De Cadena Sur. ..... T.D. 2,930 ft.
Texas Co.'s No. 10 Bank of Overton, 1,001 ft. S and 861 ft. W of NE cor. of lease and survey, John C. Smith Sur. ..... Testing; T.D. 3,755 ft.
Texas Co.'s No. 3 Cora Hanna, 302 ft. from S line and 219 ft. from W line of lease, J. B. De Cadena Sur. ..... Drlg. 2,911 ft.
Texas Co.'s No. 5 J. W. Turner, 955 ft. from S line and 330 ft. from W line of lease and survey, J. M. Scott Sur. ..... Rig up.
Tide Water Oil Co.'s No. 9 J. S. Bean, 330 ft. from W line and 330 ft. from E line of lease, J. Lewis Sur. ..... Drlg. 2,600 ft.

SMITH COUNTY

Hunt Production Co.'s No. 7-B R. W. Fair, 630 ft. from N line and 875 ft. from W line of 138-ac. tract, J. Vargas Sur. ..... Waiting on cmt. to set 3,695 ft.
Long Drilling Co.'s No. 3 G. A. Turner, D. W. Campbell Sur. ..... Derrick.
Alex McCutcheon's No. 3 A. S. Jarvis, 3,300 ft. from S line and 5,820 ft. from E line of survey, Juan Vargas Sur. ..... Waiting on cmt. to set 112 ft.
Alex McCutcheon's No. 4 Stone, 890 ft. from N line and 960 ft. from W line of survey, D. Shaw Sur. ..... Derrick.
Mid-Kansas Oil & Gas Co.'s No. 21 J. H. Sharp, 5,500 ft. from N line and 2,310 ft. from E line of survey. Drlg. 1,532 ft.
Sulton and Hawkins' No. 3 Cemetery, 800 ft. from N line and 2,580 ft. from E line of survey, J. Jordan Sur. ..... T.D. 3,814 ft.

UPSHUR COUNTY

M. T. Flannagan's No. 2 H. F. Whitehurst, 1,050 ft. from N line and 330 ft. from E line of lease, McKinley and Williams Sur. ..... Spudded.
W. V. Greer's No. 1 A. B. Mackey, 2,409 ft. from N line and 4,080 ft. from E line of survey, H. Pineda Sur. ..... Waiting on cmt. to set; T.D. 3,733 ft.
Magnolia Petroleum Co.'s No. 1 C. Brooks, 345 ft. from S line and 330 ft. from E line of 50-ac. lease, J. F. Davidson Sur. ..... Rig up.
Magnolia Petroleum Co.'s No. 2 C. Brooks, 330 ft. from S and W lines of 50-ac. tract, J. F. Davis Sur. .... Location.
B. F. Traywick et al's No. 1 M. Vaughn, 330 ft. from S line and 330 ft. from W line of 108-ac. tract, 2 miles NW of Big Sandy, P. B. Standifer Sur. ..... Location.
J. O. Wood et al's No. 1 W. F. Smith, 330 ft. from N and E lines of 25-ac. lease, J. M. Pineda Sur. .. Swabbing; T.D. 3,707 ft.

VAN ZANDT COUNTY

J. O. Griffin's No. 1 Bruce & Gibbard, 1,000 ft. from S line and 330 ft. from E line of 134-ac. tract, G. Martinez Sur. ..... Bldg. derrick.
L. C. Martin et al's No. 1 E. T. Rhodes, 150 ft. from E line and 150 ft. from S line of 34.2-ac. tract, William Page Sur. ..... Drlg. 1,262 ft.
Pure Oil Co.'s No. 6 R. V. White, 250 ft. N of S line and 2,000 ft. W of E line of R. V. White 19.2-ac. tract, Mund Gross Sur. ..... Drlg. 1,756 ft.
Ray Drilling Co.'s No. 1 J. W. Mallory, 1,150 ft. from S line and 150 ft. from W line of 217-ac. tract, John Walling Sur. ..... Derrick.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. ..... Drlg. 2,802 ft.

WOOD COUNTY

D. T. Cauble and Thompson's No. 1 N. G. Bobbett, 650 ft. from S line and 220 ft. from W line of tract, 2½ miles NW of Mineola, Daniel Fuller Sur. ..... Drlg. 1,448 ft.

Wildcat Operations in West Texas

(Continued from Page 44)

Moran's No. 1 R. W. Smith, NW cor. of Sec. 12, Blk. 43, Twp. 1n, T.&P.R.R. Sur. ..... S.D. T.D. 4,370 ft., 1,200 ft. of oil in hole, top pay 4,290-4,307 ft.
Stanolind Oil & Gas Co.'s No. 2 E. F. Cowden, 660 ft. from N and W lines of Sec. 26, Blk. 43, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 3,779 ft.
Stanolind O. & G. Co.'s No. 3 J. M. Cowden, 1,980 ft. from N and E lines, Sec. 34, Blk. 43, Twp. 1n, T.&P.R.R. Sur. ..... Waiting on cement to set 3,970 ft.
Fred Turner's No. 1-B F. V. Addis, 440 ft. from the E line and 330 ft. from S line of Sec. 35, T.&P.R.R. Sur., Blk. 43, Twp. 2s ..... Cellar.

FISHER COUNTY

Condor Pet. Co.'s No. 1 Holley, 1,170 ft. W and 660 ft. from N lines of E half, Sec. 6, Blk. R, W. E. Richardson Sur. ..... Moving in.
Southern Oil Co.'s No. 1-A Pardue, 2,310 ft. from S and 990 ft. from E lines of Sec. 202, B.B.&C. Sur. ..... Drlg. 1,850 ft.

HOWARD COUNTY

Donnelly & Norman's No. 1 Magnolia Petroleum Co. (Bell), 330 ft. from N line and 330 ft. from W line of the N half of SW of Sec. 12, T.&P.R.R. Sur., Blk. 30, Twp. 1s ..... Drlg. 600 ft.
L. C. Harrison et al's No. 2 Texas Land & Mortgage Co., 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, T.&P.R.R. Sur., Blk. 30, Twp. 1s ..... Location.
Joe Rusk et al's No. 2 G. M. Dodge Estate, 330 ft. from N line and 2,310 ft. from the E line of Sec. 9, H.&T.C.R.R. Sur., Blk. 30, Twp. 2s ..... Location.

JONES COUNTY

Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur. ..... S.D. 1,900 ft.
J. B. Kirk's No. 1 R. Gist, 150 ft. from N line, 150 ft. from E of SW cor. of survey ..... Spud.

LOVING COUNTY

R. L. Allen's No. 1 fee, 4,290 ft. from NE line, 330 ft. from SE line, Sec. 82, H.&T.C. Sur. ..... Location.
R. L. Allen's No. 2 fee, 4,290 ft. from NE line, 990 ft. from SE line, Sec. 82, Blk. 33, H.&T.C. Sur. .... Location.
R. L. Allen's No. 3 fee, 4,290 ft. from NE line, 990 ft. from NW line, Sec. 82, Blk. 33, H.&T.C. Sur. .... Location.
R. L. Allen's No. 4 fee, 4,290 ft. from NE line, 330 ft. from NW line, Sec. 82, Blk. 33, H.&T.C. Sur. ..... Location.
Eppenauer Drlg. Co.'s No. 1-C Allen, 330 ft. from NW line, 2,310 ft. from SW line, Sec. 90, Blk. 1, W.&NW Sur. ..... Location.
Eppenauer Drlg. Co.'s No. 1-A Victor, 330 ft. from SW and 338 ft. from SE of NW of N half Sec. 4, Blk. 2, W.&N.W. Sur. ..... Rigging up standard tools.

MITCHELL COUNTY

Neeley-Prater's No. 1 Morrison, 330 ft. from N line and 330 ft. from E line of Sec. 34, Blk. 29, T.&P.R.R. Sur. ..... Rigging up machine.

PECOS COUNTY

Humble Oil & Refining Co.'s No. 1 White, Baker, 1,320 ft. from N and E lines of Sec. 44, Blk. Z, T.C. Sur.... Drlg. 3,652 ft.
Mid-Kansas O. & G. Co.'s No. 18 Smith-Taylor, 1,296 ft. from S line, 1,390 ft. from W line, Sec. 33, G. C.&S.F. Sur., Blk. 194 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 20 Smith-Taylor, 700 ft. from S line and 330 ft. from W line of NW cor. S half of Fred Turner, Jr., Sur., but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 21 Smith-Taylor, 1,700 ft. from S line and 275 ft. W of northerly NW cor. of Fred Turner, Jr., Sur., but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 22 Smith-Taylor, 250 f.t from S line and 324 ft. from W line of NW cor. of Fred Turner, Jr., Sur. No. 2, but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 33-A I. G. Yates, 205 ft. from N line and 250 ft. from W line of NW cor. of Fred Turner, Jr., Sur. No. 3, but located in I. G. Yates Sur., A-8195 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 34-A I. G. Yates, 150 ft. from N line and 250 ft. from E line of NW cor. of Fred Turner, Jr., Sur. No. 4, but located in I. G. Yates Sur., A-8195. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 35-A, 250 ft. from N line and 324 ft. from E line of NW cor. of Fred Turner, Jr., Sur. No. 2, but located in I. G. Yates Sur., A-8195. ..... Location.
Sproles & O'Neal's (rec.) No. 2-A Fred Turner, Jr., 196 ft. from N line, 300 ft. from W line of Fred Turner, Jr., Sur. No. 1 ..... Location.
Sproles & O'Neal's (rec.) No. 4-A Fred Turner, Jr., 1,640 ft. from N line, 250 ft. from W line of Fred Turner, Jr., Sur. No. 1 ..... Rigging up machine.
Sproles & O'Neal's (rec.) No. 5-A Fred Turner, Jr., 250 ft. from N, 250 ft. from W of C SE cor. of Fred Turner, Jr., Sur. No. 1 ..... Location.
Sproles & O'Neal's No. 6-A Fred Turner, Jr., 1,940 ft. from S line, 300 ft. from W line of Fred Turner Sur. No. 1 ..... Drlg. 471 ft.
Sproles & O'Neal's No. 7-A Fred Turner, 280 ft. from S line, 250 ft. from W line of Fred Turner, Jr., Sur. No. 1 ..... Location.
Sproles & O'Neal's No. 8-A Fred Turner, Jr., 560 ft. from S line, 550 ft. from E line of Fred Turner Jr., Sur. ..... Location.
Sproles & O'Neal's No. 1-B Fred Turner, Jr., 250 ft. from N line, 308 ft. from E line of Fred Turner, Jr., Sur. ..... Location.
Sproles & O'Neal's No. 2-B Fred Turner, Jr., 250 ft. from N line, 305 ft. from W line of Fred Turner, Jr., Sur. ..... Location.

XUM

Sproles & O'Neal's No. 3-B Fred Turner, Jr., 356 ft. from S line, 250 ft. from W line of Fred Turner, Jr., Sur. ..... Location.
Sproles & O'Neal's No. 4-B Fred Turner, Jr., 717 ft. from S line, 250 ft. from E line of Fred Turner, Jr., Sur. No. 2 ..... Location.
Sproles & O'Neal's No. 1-C Fred Turner, 250 ft. from N line, 250 ft. from W line of Fred Turner, Jr., Sur. ..... Location.
Sproles & O'Neal's No. 2-C Fred Turner, Jr., 205 ft. from N line, 205 ft. from E line of Fred Turner, Jr., Sur. No. 3 ..... Location.
Sproles & O'Neal's No. 1-D Fred Turner, Jr., 150 ft. from N line, 250 ft. from W line of Fred Turner Sur. No. 41 ..... Fishing at 35 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 11-C University, 2,300 ft. from S line and 2,140 ft. from E line, Sec. 12, Blk. 2, University Sur. ..... Top pay 8,532 ft., tested 830 bbls. oil in 23 hours, T.D. 8,800 ft.
Big Lake Oil Co.'s No. 12-C University, 928 ft. from N, 740 ft. from E line of Sec. 12, Blk. 2, University land ..... T.D. 3,887 ft.
Continental Oil Co.'s No. 9-B University, 1,900 ft. from S line, 1,805 ft. W of E line of Sec. 39, Blk. 9, University Land Sur. ..... Drlg. 4,815 ft.
G. R. Snider, Trustee's No. 1 D. E. Hughes, 1,243 ft. from E and 990 ft. S of the NW cor. of Sec. 8, G.C.&S.F. Sur. ..... Drlg. 1,580 ft.

REEVES COUNTY

Freels et al's No. 1 J. B. Greeman, 330 ft. from NE and 2,310 ft. from S line of Sec. 21, Blk. 2, H.&G.N. Sur... U.R. T.D. 1,205 ft.

RUNNELS COUNTY

Simmons et al's No. 1 H. E. Wade, 150 ft. from S and 1,650 ft. from W line, Subdv. No. 8, Norvel Travis Sur. No. 533 ..... T.D. 135 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, Sec. 29, Blk. M, G.H.&S.A Sur. ..... S.D. 6,108 ft.

TAYLOR COUNTY

Crissman et al's No. 1 City of Abilene, 1,300 ft. from N and 1,250 ft. from E lines of Sec. 66, Bal Sur. ..... Rig up.

UPTON COUNTY

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W. Sec. 197, Blk. F, C.C.S.D.&R.G.N.G.... Drlg. 6,070 ft.

WARD COUNTY

Abell Brothers et al's No. 1 S. S. Owen et al, 330 ft. from NW line and 2,310 ft. from SW line of Sec. 16, H.&T.C. Sur., Blk. 5 ..... Drlg. 330 ft.
Abell Brothers' No. 1 Archenhold et al, 2,310 ft. from NE line and 330 ft. from SE line of Sec. 23, H.&T.C. Sur., Blk. 5 ..... Location.
Atlantic Oil & Prod. Co.'s No. 3 W. D. Johnson, 1,650 ft. from NW line of the NE half of Sec. 9, H.&T.C. Sur., Blk. 34 ..... Drlg. 1,475 ft.
Atlantic Oil & Prod. Co.'s No. 4 W. D. Johnson, 330 ft. from NE line and 990 ft. from SE line of NE half of Sec. 9, H.&T.C. Sur., Blk. 34 ..... Location.
George Bentley et al's No. 1 C. Bergman, 330 ft. from NE line and 2,310 ft. from NW lines of Sec. 26, Blk. 5, H.&T.C. Sur. ..... T.D. 2,650 ft., plugged back to 2,470 ft., fishing.
George Bentley et al's No. 1 A. Emory, 1,830 ft. from NE line and 2,310 ft. from NW line of Sec. 26, Blk. 5, H.&T.C. Sur. ..... T.D. 2,301 ft.
Eppenauer Drlg. Co.'s No. 1 University, 330 ft. from N and 440 ft. from E of S half of Blk. 16 ..... Drlg. 2,165 ft.
Jack Leidecker et al's No. 1 A. Archenhold et al, 2,310 ft. from NE and 2,310 ft. from NW line of Sec. 23, H.&T.C.R.R. Sur., Blk. 5 ..... Drlg. 707 ft.
S. A. Thompson et al's No. 3 W. D. Johnson, 330 ft. from NE line and 1,650 ft. from NW line of the SW half of Sec. 9, H.&T.C.R.R. Sur., Blk. 34..... Waiting on cement to set 2,299 ft.
S. A. Thompson et al's No. 4 W. D. Johnson, 330 ft. from NE line and 2,310 ft. from NW line of the SW half of Sec. 9, H.&T.C.R.R., Blk. 34..... Location.
Wahlenmaier Pet. Corp.'s No. 1 R. M. Blodget, 990 ft. from SW line, 330 ft. from SE line of Sec. 26, H.&T.C. Sur., Blk. 5 ..... Drlg. 350 ft.

WINKLER COUNTY

Harry Adams et al's No. 2 Scarborough, 990 ft. from N line and 990 ft. from E line of Sec. 1, Blk. 77, P.S.L. Sur. ..... Drlg. 1,930 ft.
Colonial Oil Co.'s No. 2 State Scarborough, 990 ft. from W and 102½ ft. N of the NE cor. of Sec. 1, School Blk. 77, located in Sec. 1, Blk. W. F. ..... Rig up and S.D.
Sid Richardson's No. 3 John Sealy, 2,310 ft. from the N line and 330 ft. from the W line of Sec. 94, G.&M.B.B.&A. Sur. ..... Drlg. 2,800 ft.

Wildcat Operations in Texas Panhandle

Week Ending August 28

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
Reiger et al's No. 1 Foster, 330 ft. from N and E lines of SW Sec. 93, Blk. 7, I.&G.N.R.R. Sur.	Location.

GRAY COUNTY

British American Oil Prod. Co.'s No. 4 Phillips, 1,254 ft. from N, 330 ft. from W lines of W½ E½, Sec. 127, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 110 ft.
Charles Black's No. 1 fee, 330 ft. from W, 661 ft. from S line of SW Sec. 45, Blk. 25, H.&G.N. Sur. ..... O.W.D.D.; T.D. 2,965 ft.
Bell O. & G. Co.'s No. 1 Webb, 330 ft. from N and E lines of Sec. 61, Blk. 25, H.&G.N. Sur. ..... Drlg. 2,250 ft.
British American Oil Co.'s No. 3 Phillips, 330 ft. from S and W lines of W½ E½ Sec. 27, Blk. 3, I.&G.N. Sur. ..... T.D. 3,270 ft.
Chism et al's No. 1 J. M. Carpenter, 330 ft. from N line, 330 ft. from E line of SE Sec. 37, H.&G.N. Sur., Blk. 25 ..... Cellar.
Continental Oil Co.'s No. 4 Finley, Sec. 32, Blk. 2-B, H.&G.N. Sur. ..... O.W.D.D.; T.D. 2,957 ft.
Danciger O. & R. Co.'s No. 3 Wright, 990 ft. from S, 330 ft. from W lines of Sec. 13, Blk. 3, I.&G.N. Sur... Coring 2,589 ft.
Denworth Oil Co.'s No. 2-B Webb, 330 ft. from N and W lines, SE NW Sec. 61, Blk. 25, H.&G.N. Sur. ..... Cellar.
Gulf Prod. Co.'s No. 5 Ellis Cockrell, 330 ft. from N and E lines of S½ Sec. 2, Blk. M-21, T.C.R.R. Sur... Location.
Hendron et al's No. 1 Husselby, 330 ft. S and E, SW SW Sec. 11, Blk. A-9, H.&G.N. Sur. ..... Rig.
Mazda-Shell's No. 4 Coombs-Worley, 990 ft. from N line, 330 ft. from E line, Sec. 35, Blk. 3, I.&G.N. Sur. Rig.
Phillips Pet. Co.'s No. 7 Jackson, 990 ft. from E, 330 ft. from S lines of S½ SE Sec. 33, Blk. 2-B, I.&G.N. Sur. ..... Fishing 2,287 ft.
Phillips Pet. Co.'s No. 1 Palmer, 330 ft. from S and E lines of E 80 acres of Sec. 31, Blk. 2-B, H.&G.N. Sur. ..... Starting to test; T.D. 2,868 ft.
Phillips Pet. Co.'s No. 1 Benton, 360 ft. N, 346 ft. W from E lines of W½ E½ Sec. 63, Blk. 3, I.&G.N. R.R. Sur. ..... Moving in.
Baker Saulsberry's No. 1 John Cubine, 990 ft. from N and E lines, of SE Sec. 36, Blk. 25, H.&G.N.R.R. Sur. ..... Cellar.
Sinclair Prairie Oil Co.'s No. 2 P. A. Coomley, 1,800 ft. from S, 2,618 ft. from W lines of S 246 acres of Sec. 57, Blk. 3, I.&G.N. Sur. ..... Cmtd. csg. at 2,900 ft.
Skelly Oil Co.'s No. 1 L. H. Webb, 990 ft. from E line, 330 ft. from N line of S½ of Sec. 61, H.&G.N. Sur., Blk. 25 ..... Drlg. 210 ft.
Skelly Oil Co.'s No. 5 Vicars, 440 ft. from N, 330 ft. from W line of E½ NW Sec. 127, Blk. 3, I.&G.N. R.R. Sur. ..... Bldg. rig.
Southern Pet. Explin. Co.'s No. 5 McConnell, 330 ft. from N, 990 ft. from W lines of NW Sec. 174, Blk. 3, I.&G.N.R.R. Sur. ..... Moving in rig.
Sun Oil Co.'s No. 2-B Combs-Worley, 330 ft. from S line, 990 ft. from E line of SW of Sec. 34, I.&G. N. Sur., Blk. 3 ..... Cellar.
Texas Co.'s No. 6 Combs-Worley (O.W.D.D.), 330 ft. from N and W lines of S½ SE Sec. 36, Blk. 3, I. &G.N.R.R. Sur. ..... T.D. 3,305 ft.
Wilcox O. & G. Co.'s No. 23 Combs-Worley, 990 ft. from E line, 330 ft. from N line of Sec. 35, I.&G. N. Sur., Blk. 23 ..... Drlg. 2,620 ft.
F. H. Yealy's No. 2 Crank, 960 ft. from N and E lines of N 160 acres of W 400 acres of Sec. 163, Blk. 3, I.&G.N.R.R. Sur. ..... Rig.

HUTCHINSON COUNTY

Huber Pet. Corp.'s No. 1-A Huber Dunaway, 330 ft. from S, 990 ft. from E lines of S 200 acres of Sec. 7, Blk. Y-a, T.C.R.R. Sur. ..... Cellar.
Phillips Pet. Co.'s No. 1 Ponter, 33 ft. from S and W lines of S 80 acres of E½ Sec. 6, Blk. M-21, T.C. R.R. Sur. ..... Location.
Dave Rubin-Henderson's No. 1 fee, 86 ft. from S. 299 ft. from E of SW cor. Sec. 82, Blk. 46, H.&T.C. R.R. Sur. ..... S.D. 441 ft.
H. Stekol's No. 4 G. A. Whittenburg, 450 ft. from N line, 990 ft. from W line, Sec. 38, Blk. M-23, T.C. R.R. Sur. ..... To test; T.D. 3,032 ft.

RANDALL COUNTY

Woolsey & Devore's No. 1 Belew, 330 ft. N, 1,320 ft. E of NE, Sec. 85, Blk. 2, A.B.&M. Sur. ..... Drlg. 3,905 ft.

WHEELER COUNTY

Elbar Corp.'s No. 1 Noel, 330 ft. from S and E lines of NE Sec. 54, Blk. 24, H.&G.N.R.R. Sur. ..... Old T.D. 2,482 ft.
Martin & Dubose's No. 1 Grogan, C NE Sec. 57, Blk. 23, H.&G.N. Sur. ..... Fishing 1,545 ft.
Mid-Kansas O. & G. Co.'s No. 1 Husselby, 330 ft. from S and E lines of SW Sec. 70, Blk. 24, H.&G.N. Sur... T.D. 2,434 ft; est. 100-bbl. well.
Piney O. & G. Co.'s No. 1 J. P. Koons, 330 ft. from E line, 330 ft. from S line of E½ NE Sec. 43, H.& G.N. Sur., Blk. 24 ..... Running csg. 1,375 ft.
Skelly Oil Co.'s No. 1 M. Huselby, 330 ft. from S line, 330 ft. from W line of E½ of Sec. 70, H.&G.N. Sur., Blk. 24 ..... Rig up.

Crude Oil Prices

(Continued from Page 41)

ble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective August 25 in Darst Creek by Gulf Pipe Line Co., Magnolia Petroleum Co., Texas Co. Effective in Mirando, August 25 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on August 24 by Humble Oil & Refining Co., and on August 25 by Gulf Pipe Line Co. Luling and Lytton Springs, by Magnolia Petroleum Co. Duval County by Texas Co.; Saxet, effective August 24 by the Humble Oil & Refining Co., and on August 25 by Texas Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	(See note)
Urania, La. (Aug. 26, 1933)*	$.45
Urania, La. (Jan. 20, 1933)†	.25
East El Dorado (Aug. 25, 1933)	.40
Other fields	(See gravity table)

Note—Smackover: Effective August 25, 1933, Texas Co. and Magnolia Petroleum Co., 40 cents. Effective August 25, Standard of Louisiana, 35 cents; Louisiana Oil Refining Corp., 35 cents; Gulf Refining Co., 40 cents. Effective August 26, Phillips Petroleum Co., 35 cents. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co.
*H. L. Hunt, Inc. †Louisiana Oil Refining Co.

Eastern States

SOUTH PENN OIL CO.
(Effective August 11, 1933)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.10
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.77
Penna Grade Oil in Eureka Pipe Line Lines	1.72
Penna Grade Oil in Buckeye Pipe Line Lines	1.57
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Aug. 4, 1933)	.85

TIDE WATER PIPE CO.
(Effective August 11, 1933)

Bradford, Pa.	$2.10
Allegany, N. Y.	2.10

PENNZOIL CO.
(Effective August 11, 1933)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$2.02
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2.01
Includes Titusville district.	
Group C	2.00
Includes Turkey and Tidioute districts.	
Group D	1.99
Includes Bear Creek and Porkey districts.	
Group E	1.97
Includes Edeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.	
Price depends on length of pipe line haul to plant at Oil City.	

PURE OIL CO.
(Effective August 11, 1933)

Cabin Creek, W. Va.	$1.72
Bradford Hollow, W. Va.	1.72

Rocky Mountain States

Iles, light (Aug. 26, 1933)	$.60
Iles, heavy (Aug. 26, 1933)	.54
Florence, Colo. (June 17, 1933)	.38
Fort Collins and Wellington, Colo. (June 17)	(See Salt Creek price)
Cat Creek, Mont. (June 17, 1933)	.52
Big Muddy (Aug. 25, 1933)	.65
Frannie, light (Aug. 26, 1933)	.51
Frannie, heavy (Aug. 26, 1933)	.40
Salt Creek and La Barge (Aug. 26, 1933)	
See Stanolind Mid-Continent price schedule	
Grass Creek, light (Aug. 26, 1933)	.52
Grass Creek, heavy (Dec. 15, 1932)	.45
Elk Basin (Aug. 26, 1933)	.82
Rock Creek (Aug. 25, 1933)	.66
Dutton Creek (July 8, 1933)	
See Mid-Continent gravity prices.	
Lance Creek (Dec. 16, 1932)	.92
Poison Spider (Mar. 5, 1931)	.70
Hudson (June 2, 1931)	.85
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage (Jan. 18, 1933)	.59
Lost Soldier (Aug. 28, 1933)	.52
Hamilton Dome (Dec. 16, 1932)	.25
Torchlight (Aug. 26, 1933)	.82
Greybull (Aug. 26, 1933)	.82
Pondera (June 17, 1933)	.75
Sunburst (Aug. 25, 1933)	1.00
Hogback, N. Mex. (Aug. 26, 1933)	.85
Lea County, N. Mex. (See note)	.40
Maljamar (June 19, 1933)	.35
Artesia-Jackson (July 11, 1933)	.45

Note—Salt Creek, Cat Creek, Dry Creek Dallas-Derby, Hudson, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. on August 25. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective August 24, by Humble Oil & Refining Co., and on August 25 by other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro.
*Continental Oil Co.

Middle Western States

OHIO OIL CO.
(Effective August 25, 1933)

Lima	$.95
Illinois	.87
Princeton, Ind.	.87
Plymouth	Shut in
Western Kentucky	.82
Midland, Mich. (Aug. 7, 1933)*	.86
Somerset, Ky. (Aug. 29, 1933)	.87
Hart County, Ky. (Aug. 4, 1933)	.85
Muskegon, Mich. (Mar. 27)	See note

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Muskegon: All companies pay $1 per barrel effective March 27. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co.

Canada

Ontario (Aug. 25, 1933):	
Petrolia*	$1.85
Oil Springs*	1.92
Turner Valley†:	
Crude oil, 31-35.9° (Jan. 24, 1933)	1.41
Crude oil, 36-49.9° (Jan. 24, 1933)	1.96
Crude oil, 50° up (Jan. 24, 1933)	2.41
Discolored naphtha (Jan. 24, 1933)	2.58
Crude naphtha (Jan. 24, 1933)	2.82

*Imperial Oil, Ltd. †Imperial Oil, Ltd. and Regal Oil & Refining Co.

Mexico

Panuco*	$0.432

*F.o.b. ship, based on June transactions and exclusive of production and export taxes and bar dues.

Wildcat Tests in Oklahoma, Widely Separated, Hold the Close Attention of Oil Operators

By JAMES McINTYRE

A number of interesting wells, not yet completions, are holding the attention of operators and others interested in the Oklahoma fields. The Wentz & Feagin test in the C SE SW Section 10-21-2e, Noble County; the Amerada, Stanolind and I. T. I. O. test in Sasakwa Townsite, Seminole County; the Magnolia Petroleum Co.'s wildcat in C SW SW 2-14-3, Lincoln County, and Ed Moore and others test in southern Pontotoc County, C SE SE SW Section 29-2-7, have all been closely watched in the past two weeks. The owners are carefully handling these wells, which have shown either good production or good prospects of production.

The latest report available for this review on the Magnolia Petroleum Co.'s well in Lincoln County showed it flowed by heads 636 bbls. in 14 hours and produced 3,000,000 feet of gas, the oil and gas coming from Wilcox sand at 4,982-86 feet. It was then shut down for tankage. Considerable royalty trading was engaged in as a result of this showing. The Wentz & Feagin test on the Monday morning report from the field showed the crew running pipe to 4,085 feet, 5 feet in the Mississippi lime. The Amerada, Stanolind and Indian Territory Illuminating Oil Co.'s test in the Sasakwa Townsite field, on the latest report, flowed 1,920 bbls. in seven hours and 10 bbls. in the eighth hour, during which it stopped flowing. The well has been acting in this manner ever since it came in, flowing a few hours, "going dead" and later resuming its several hours flow.

Oklahoma Daily Production

Production for the week ending August 26 and for the preceding week follows:

	Aug. 26 (bbls.)	Aug. 19 (bbls.)
Allen	10,870	10,980
Bowlegs	13,990	14,310
Bristow-Slick	11,100	11,100
Burbank	9,900	9,990
Carr City	8,290	8,500
Earlsboro	10,540	12,045
East Earlsboro	13,795	20,925
South Earlsboro	2,115	2,085
Little River	21,875	20,770
East Little River	1,100	1,230
Oklahoma City	265,585	270,425
Seminole	14,260	14,285
East Seminole	2,065	1,960
Searight	3,195	3,280
Maud	1,616	1,599
Mission	6,350	6,090
Lucien	4,470	4,365
Cushing	13,050	13,250
St. Louis-Pierson	29,650	30,360
Tatums-Sholem-Alechem-Tussey	13,470	13,525
Other pools	148,224	149,610
Total Oklahoma	605,510	620,585

Old Wells Abandoned

Fifty-seven old producing wells in Oklahoma were listed as aabndoned in the July report of the oil and gas department of the Oklahoma Corporation Commission. They had reached a stage where they were unprofitable to operate and have been plugged. Only 31 new oil wells were completed in the state in July, so that there were fewer oil wells at the close of July than at the beginning. The long prevailing low prices for crude oil have made many old wells of small daily production unprofitable and hundreds of these have been abandoned this year. Many of them could have been operated had oil been priced at $1 or more per barrel. In the July report 19 wells were listed as abandoned in the west ranges and 38 in the east ranges. They varied in total depth from 730 feet (a well in Washington County), to 6,066 feet, a well in Logan County.

Eight wells on the Evans farm in Section 10-24-1w, in the Tonkawa field, developed by the Magnolia Petroleum Co., but which appear on the abandoned well list as owned by the Dracutt Oil Co., were abandoned, and three wells in the Marshall Pool in Logan County are listed. On the east side of the state, Osage, Washington and Tulsa Counties; the Glenn Pool in Creek-Tulsa Counties, and Okmulgee, Creek and Muskogee Counties all saw old wells pulled and plugged.

Complaint Dismissed

Overproduction complaints against the Russell Petroleum Corp. on two wells in the Oklahoma City Field were dismissed by Edwin Dabney, proration attorney, who told the Corporation Commission he wanted to complete an investigation of production on the wells.

As a result of the dismissal, the company can now produce its August allowable, which it had sought to do by a supersedeas application in the State Supreme Court.

Complaints charged No. 1 Reno and No. 1 Roosevelt were overproduced 90,000 bbls. between January 1 and August 1. Dabney said his investigation would extend beyond January 1.

In Osage County, the Lewis Production Co.'s No. 1, NW NE Section 33-24-7, in the Naval Reserve area, was shot in sand at 2,572-98 feet, with 100 quarts of explosive, and the well flowed 490 bbls. the first 24 hours. On the second day it flowed 240 bbls.

The Indian Territory Illuminating Oil Co. and Palmer's No. 1, C NE NE NW Section 8-25-6, had a hole full of water in sand at 1,935-95 feet, and was drilling at 2,240 feet.

The Lewis Production Co. made a location for No. 1, NE NW Section 33-24-7. The Gypsy Oil Co. made a location for No. 1, SW cor. Section 18-24-8. Sinclair Prairie Oil Co. is rigged up on a test in the NW NE Section 22-24-8, and also on No. 25 in Section 30-24-12, an old well to be drilled deeper.

The Gypsy Oil Co. and Continental Oil Co.'s No. 1, C SW SW SE Section 12-23-7, was drilling in black lime at 2,695 feet. The Clint Moore estate has made a location for No. 2-A, CNL SW SE SE Section 27-21-9.

Wildcat Operations in Oklahoma

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location—	Remarks
Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w	O.W.D.D.; S.D. 5,740 ft.

BECKHAM COUNTY

Pattee Royalty Co.'s No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w	Drlg. 3,485 ft.

CADDO COUNTY

Denver P. & R. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w	S.D. 9,540 ft.

COAL COUNTY

Dodd & Burton's No. 1 Grigsby, NW SE NE Sec. 35-1-8	Shot 5 qts.; 1,000 ft. oil in hole.
Funk & Russell's No. 1 Miller, SE NE Sec. 10-2-8	Fishing 2,750 ft.

GARFIELD COUNTY

J. H. Lewis' No. 1 Clark, C NW NW Sec. 34-21-6w	Cmtd. 15-in. 110 ft.

HUGHES COUNTY

Dixie-Lee Oil Co.'s No. 1 Taylor, C NW Sec. 27-5-10	Drlg. 350 ft.
Pioneer Pet. Co.'s No. 1 Brock, SE cor. Sec. 26-8-11	Spudded in and S.D.
Redwine et al's No. 1 Badger, C N half SW SW Sec. 4-5-11	S.D. 330 ft.
Scruggs et al's No. 1 Black, NE Sec. 13-9-10	Rig.

KAY COUNTY

Blauner et al's No. 1 Maple, NE NW SE Sec. 20-27-4	Drlg. 2,050 ft.
Morgan et al's No. 1 Bush, NW NE NE Sec. 25-28-4	Run 15-in. csg. at 400 ft.

KIOWA COUNTY

Christian's No. 1 Jones, NE NW Sec. 8-7-18w	S.D. 1,904 ft.
McWhirter et al's No. 1 Vanderneck, NE NW Sec. 3-7-19w (O.W.D.D.)	S.D. 2,155 ft.

LINCOLN COUNTY

J. Garfield Bull's No. 1 Smith, NW SE Sec. 26-16-6	Drlg. 2,220 ft.
Magnolia Pet. Co.'s No. 1 Wagoner, SW SE Sec. 2-14-3	Wilcox sand 4,982-86 ft. T.D.; flowed by heads 636 bbls. in 14 hrs.; 13,000,000 ft. gas; no wtr.; shut in for tankage.

LOGAN COUNTY

Amerada Pet. Corp.'s No. 1 Long, C NW NW SW	Rig.
Shell Pet. Corp.'s No. 1 Faulkner, C SE NW Sec. 11-15-4w	Coring 6,723 ft.

MARSHALL COUNTY

Robb et al's No. 1 Vittitoe, NE SE Sec. 11-5s-4e	Rigging up rotary tools.

MURRAY COUNTY

A. E. Harden's No. 1 Sadler, NE Sec. 19-1-2	Rig.
T. E. Revells et al's No. 1 Wolfe, NE cor. Sec. 18-1-2	Drlg. 400 ft.

MUSKOGEE COUNTY

J. S. Routt et al's No. 1 Escoe, CWL SE NE Sec. 17-13-17	Drlg. 905 ft.

NOBLE COUNTY

Sinclair Prairie's No. 1 Jerome, SW cor Sec. 15-20-2w	T.D. 5,337 ft.; will abd.
Wentz & Feagen's No. 1 Eyler, C SE SW Sec. 10-21-2	Set pipe at 3,715 ft.; drlg. 3,833 ft.

OKLAHOMA COUNTY

Houston et al's No. 1 Ketcham, CSL NW NE SE Sec. 32-14-3w	Drlg. 3,290 ft.
Mid-Continental Oil Co.'s No. 1 Edwards, C SE SE Sec. 19-11-1	Drlg. 3,270 ft.
H. E. Rapp's No. 1 Price, CEL NE SW Sec. 19-14-3w	Drlg. 5,240 ft.
F. Russell's No. 1 Heapley, SW NW NE Sec. 23-13-3w	Drlg. 5,360 ft.

PAYNE COUNTY

Kemp & Nunnelee's No. 1 Crane, SW SE SW Sec. 10-17-6	Fishing for bit 1,485 ft.
O. N. Maines et al's No. 1 Scheldberg, NW SW NW Sec. 27-22-6	Wilcox sand 3,114-38 ft; wtr.; S.D.

PITTSBURG COUNTY

Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-8-14	Drlg. 2,740 ft.; 4,000,000 ft. gas.

PONTOTOC COUNTY

Gilbert's No. 1 Starritt, NW SE Sec. 28-4-4	Drlg. 1,313-20 ft; 5,000,000 ft. gas.
Choctaw O. & G. Co.'s No. 1 Thompson, SW NE SW Sec. 1-1-7	Fishing for tools; T.D. 1,440 ft.
W. E. McGraw's No. 1 Mayhue, NE Sec. 19-2-6	Drlg. 1,180 ft.
McGee et al's No. 1 Newborn, SW NE Sec. 31-5-4	Rig.
Williams' No. 1 Kroth, NE SE Sec. 33-3-4	H.F.W. 1,977 ft.
Wirrick's No. 1 Lee, SE SW Sec. 29-2-7	Drlg. 3,201 ft.
Sledge et al's No. 1 Worley, SW SE SW Sec. 22-2-7w	Drlg. 668 ft.

POTTAWATOMIE COUNTY

Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4	T.D. 3,780 ft.; csg. collapsed.

SEMINOLE COUNTY

Sinclair Prairie's No. 1 Tierney, SE cor. Sec. 2-11-6	Drlg. 2,737 ft.
Stewart & Egan's No. 1 Sanderson, NE SW Sec. 27-6-5	Drlg. 3,220 ft.
Filmiee's No. 1 Bowlegs, SE NE SW Sec. 1-7-7	S.D. 800 ft.
Armstrong et al's No. 1 Diamond, NE SE SW Sec. 8-6-7	Set 8-in. csg. 3,918 ft.; T.D. 4,044 ft.; H.F.W.

WASHITA COUNTY

McWhirter & Post's No. 1 Hall, SW SE SE Sec. 28-8-19w	Drlg. 180 ft.

Southern Oklahoma

ATOKA COUNTY

Blake's No. 1 Galbreath, SW NE SE Sec. 5-1-15	Drlg. 248 ft.
Malernee et al's No. 1 Cole, NE NW Sec. 19-2s-14	S.D. 580 ft.
L. E. Stewart et al's No. 1 Stewart, SE SE Sec. 2-4s-10	S.D. 2,051 ft.

JEFFERSON COUNTY

Wakefield's No. 1 Kelly, NW SE Sec. 1-5s-8w	Drlg. 550 ft.

STEPHENS COUNTY

Doyle Oil Co.'s No. 1 Cunningham, SE NE NW Sec. 4-1-6w	Drlg. 2,500 ft.

TILLMAN COUNTY

Emenheser et al's No. 1 Pace, C SW Sec. 3-4s-17w	Dry and abd. 3,304 ft.
J. H. Everett's No. 1 Crane, SW cor. Sec. 15-3s-14w	Rig.
Gypsy Oil Co.'s No. 1 Pitcher, NW Sec. 26-4s-15w	Dry and abd. 3,132 ft.

Tulsa County

In Tulsa County, Johnson Oil & Refining Co. was drilling below 500 feet in No. 3 Davis, CNL SE SE Section 19-19-10. S. W. Anthony's No. 1-A Cowles, SW SE SW SE Section 6-16-13, Tulsa County, was completed as a 2,500,000-foot gas well at 1,699-1,720 feet.

Completions in Wagoner County

In Wagoner County, Webb's No. 3 London, C NW NW Section 16-18-15, was spudded in. Sands Petroleum Co.'s No. 3 Robin, SE SW SW Section 23-18-15, which had made 75 bbls. naturally from sand at 1,034-63 feet, was shot with 200 quarts of explosive with no reported improvement in production. Marrs' No. 4 Snake, NE NW NW Section 26-18-15, made 50 bbls. in 24 hours after a 90-quart shot at 1,034-35 feet. Stansbury's No. 4 Drew, CSL SE SE Section 26-18-15, was drilling. McIntire's No. 2 Tiger, CSL NE NW Section 2-17-15, had 500 feet of oil in the hole from sand at 1,071-92 feet, total depth 1,100 feet. It will be shot.

Results in Creek County

Comal Oil Co.'s No. 3 Brown, C W half SW NE Section 8-18-7, in the old Cushing Field, was shot with 100 quarts in lime and sand at 2,450-2,513 feet. The well made 1,000,000 feet of gas and 50 bbls. of oil the next 24 hours.

In the Olive district, Creek County, Roy Dean and others were drilling below 450 feet in No. 1-A Grayson, SE NW Section 3-18-8. Gibson and others were building rig for No. 2 Jackson, NE cor. NW Section 3-18-8, and the Johnson Oil & Refining Co. has rig up for No. 2 Prince, NW NE same section. F. O. Aikin has started drilling No. 3 Tiger, NW SE NE Section 34-18-8, and F. L. Marrs has started drilling No. 3 Tiger, SW NE NE same section.

J. E. Crosbie, Inc.'s No. 1 Casey, SW NE SE Section 3-17-8, in the Olive district, was shot with 80 quarts at 1,342-60 feet and made a 75-bbl. showing, and was being cleaned out. Smith and others' No. 3 Tucker, SE NW SW Section 14-17-8, was shot in Peru sand at 2,292-2,340 feet, but it made only 3 bbls., and was plugged back to Layton sand at 1,368-1,402 feet and will be shot.

Bingham Brothers have rig up for No. 1-A Thompson, SW NW SW NE Section 26-17-11, the old Glenn Pool area.

Okmulgee-Muskogee District

Mack Drilling Co. has started drilling No. 1-A Franklin, CWL NE SE

Section 13-15-14, Okmulgee County. H. C. Detrick has machine in to start No. 2 McIntosh, SE SW SW SE Section 17-15-18, Muskogee County. A. J. Crist has made a location for No. 1-A Berryhill, SW NW NE Section 17-14-13. English & Hendricks were drilling below 700 feet in No. 10 Harris, CSL NW NE Section 1-14-14, Bald Hill district. Babcock Brothers abandoned their No. 5 Harris, CEL SE NW Section 1-14-14, after penetrating dry Booch sand at 1,127-41 feet, but have started drilling No. 6 Harris, C SE SW Section 1. J. E. Wallace has an 18-bbl. well after a 15-quart shot at 1,771-94 feet in No. 4 Colbert, CNL SE NE Section 15-14-14. W. J. Metzger has a machine in for No. 2 McDaniel, NW NE SE SE Section 6-14-19, just southeast of Muskogee.

J. L. Selby was cleaning out preparatory to drilling deeper in No. 1 Reiter, NE NW Section 9-12-11, Schulter district. The old total depth was 2,365 feet.

R. C. Walker was rigged up to drill deeper in No. 1-A Hopkins, C SE NW NE Section 3-11-11, Henryetta district. Old total depth was 2,667 feet. McBrayer & Rapp have started drilling No. 2-A Barnett, SE SW NW Section 25-11-11.

Pawnee and Payne Counties

Schell & Seals' No. 1 Rea, SE NE Section 18-20-9, Pawnee County, was dry and abandoned. Siliceous lime at 3,005-26 feet carried a hole full of water.

In Payne County, the Amerada Petroleum Corp. and Stanolind Oil & Gas Co. were rigging up rotary for a test on the Bryant lease, NW SE SE Section 6-18-5.

Logan County

In the Crescent area, Logan County, Gypsy Oil Co. has cellar dug for No. 1 Good, C SW NW Section 27-14-4w. Continental Oil Co. has rig up for No. 1 McConnell, C SE SE Section 28.

In the southwestern part of the county, Shell Petroleum Corp.'s No. 1 Faulkner, C SE NW Section 11-15-4w, was coring at 6,723 feet.

Oklahoma County

Wofford Drilling Co. and others' No. 1 Armour, in the Oklahoma City Field, located 1,219 feet south and 463 feet east of the NW cor. Section 2-11-3w, got Wilcox sand at 6,280 feet and drilled to 6,337 feet. It swabbed 317 bbls. of oil and mud in 24 hours and was then shut down for orders.

In the Lucien Field

In the Lucien area in Noble County, the Continental Oil Co. was drilling in shale at 5,280 feet in No. 1 Hafner, C E half NE SW Section 18-20-2w. The Shell Petroleum Corp.'s No. 1 Schoenwald, C NW NE Section 20-20-2w, was at a total depth of 5,085 feet. It showed 5 bailers of water and 10 bailers of oil in 16 hours. The well was shut down.

In Pottawatomie County

Continental Oil Co.'s No. 1 Community-Riddle, C S half SE SE Section 35-11-3, a wildcat northwest of Shawnee, Pottawatomie County, cemented 12-inch casing at 92 feet.

Sunbeam Oil Co. and others acidized No. 1 Brandenburg, SW NW SE Section 35-8-4, St. Louis area, at 3,707-50 feet, and it tested 132 bbls. in 24 hours.

Charles Liddell had a rig on the ground for No. 1 Brandenburg, NW SE SW Section 3-7-4.

The Deep Rock Oil Co. and others' No. 1 Richardson, SE NE NE Section 32-7-4, which was acidized at 4,171-74 feet and made 175 bbls. in one day on the test, was put to pumping and made 135 bbls. in 24 hours.

In the Asher area, Gypsy Oil Co. and others were moving in material for No. 2 Tenwas, SW NW Section 25-6-4.

In the Sacred Heart area, Amerada Petroleum Corp. had cellar dug for No. 1 Smith, NE cor. NW Section 6-6-5.

Grisso and others' No. 1, C SE SE NW Section 2-8-4, got Misener sand at 4,112 feet, with a slight showing of oil, and Hunton lime at 4,115-20 feet, total depth, with no oil showing.

Vaughn and others' No. 1 Lowther, C NW NE SW Section 33-7-4, treated Viola lime at 4,092-4,136 feet with 1,000 gallons of acid and 200 bbls. of oil and shut the well in. This well had swabbed 225 bbls. in 21 hours before being treated.

Superior Oil Co.'s No. 1, NE cor. Section 5-6-4, got Viola lime at 4,086 feet, set 6-inch pipe at 4,087 feet, after drilling to 4,091 feet. The crew was drilling plug.

Sasakwa's Temperamental Well

The Amerada Petroleum Corp., Stanolind Oil & Gas Co. and Indian Territory Illuminating Oil Co.'s No. 1 Palmer, SW cor. Section 25-6-7, Sasakwa Townsite Pool, in Seminole County, reported last week went dead 9½ hours after it started flowing. It was at a total depth of 3,973 feet, in dolomite, topped at 3,951 feet, but with first oil showing at 3,969 feet. The well was shut in, and reopened on Wednesday and made 236 bbls. in one hour and 126 bbls. the second hour. It was deepened to 3,979 feet but failed to flow and was shut in. When it was reopened it was reported to have flowed 451 bbls. in one hour, 163 bbls. the second hour, and 236 bbls. the third hour.

Carter Oil Co.'s No. 9 Campbell, NW SW Section 20-9-6, has tools in.

The Gypsy Oil Co.'s No. 2 Coker, SE SW NE Section 2-8-5, was put on the pump and produced 294 bbls. in 24 hours from Wilcox sand at 4,217-31 feet.

King & Morse had a 2,000,000-foot gas production in their No. 1 King, SE SW NW SW Section 27-7-20w, Kiowa County, from sand at 930-73 feet.

The National Producing Co. has a machine in for No. 1 Littrell, NE cor. Section 31-2n-3w, Carter County.

New Work in Pontotoc

In Pontotoc County, W. A. Delaney is rigged up to start No. 1 Craddock, SE NE NE Section 25-2-6. Patsy Oil Co. has a rig up for No. 3 Burke, SW NE SE Section 25-5-4. Denver Producing & Refining Co.'s No. 3 Hickman, NW SE SE Section 25-5-4, has tools moved in. Galbreath and others were drilling at 110 feet in No. 1 Stafford, NE SE SE Section 31-2-6e. Wirrick and others' No. 1 fee, SE SW Section 29-2-7, was drilling at 3,396 feet. This well had 18,000,000 feet of gas at 3,342 feet but the flow has dropped to 8,000,000 feet.

In the West Holdenville area, Hughes County, Boettcher and Blackwell Oil & Gas Co.'s No. 3 Jacobs, NW SE SE Section 9-7-8, swabbed 75 bbls. in 10 hours from pay at 2,927-34 feet, total depth.

In Southern Counties

The Southern Oil Co. was drilling below 700 feet in No. 6 Seay, SE SW NW SE Section 3-7s-5w, Jefferson County. Hughes and others were rigging up rotary for No. 1-A Black, NE NW NW SE Section 16-7s-5w, in the same county.

In Major County, the Centrop Petroleum Co. has started drilling No. 2 Little, NE cor. SE Section 25-7s-5e. Paul Robb was rigging up rotary tools on No. 1 Vittatoe, C NE SE Section 11-5s-4e.

The Gypsy Oil Co. abandoned its test, No. 1 Pitcher, NW cor. Section 26-4s-15w, Tillman County, at 3,132 feet.

George Pace and others' No. 1, NE SE NW Section 2-2s-8w, Stephens County, had a hole full of water at 2,443-50 feet. It was drilled to 2,458 feet and abandoned as a failure.

Roy Kyle has started drilling No. 1-B Lester, NW NE NW SE Section 4-2s-8w, Stephens County.

McAllister and others' No. 1-A Parker, SE NE SE Section 11-2s-8w, Stephens County, was dry and abandoned at 2,130 feet. It had a small showing of oil and water at 2,119-22 feet, and all water at 2,130 feet.

George Pace and others' No. 1-A Duncan, 180 feet south and 75 feet east of the north quarter (NW cor. NW NW NE), Section 28-2s-7w, Stephens County, set 6-inch at 1,690 feet after penetrating sand at 1,692-95 feet, and was waiting for cement to set.

Graham & Gilbert were drilling at 1,670 feet in No. 1-A Farris, SE cor. NW NW Section 26-2-6w, Stephens County.

Louis Camp had rig on the ground for No. 1 Bristow and others, NE SE SE Section 5-1s-8w. Trahan and Martin have made a location for No. 1-B Dolen, CWL NW Section 15-1s-8w.

In the Tatums-Tussey area in Carter County, the Carter Oil Co.'s No. 1 Perkins, C SW NW SW Section 3-1s-3w, had a good showing of oil at 2,787-2,816 feet, but drilled to 2,871 feet. The crew plugged back and set 8-inch pipe at 2,698 feet to test the showing. Walter Neustadt has started drilling No. 1 fee, NE SW SW Section 3-1s-3w, and the Dun Mar Oil Co. has made a location for No. 1 Miller, NW SW NE Section 6-1s-3w.

Gulf Coast Port Shipments During June Showed Very Substantial Increase

HOUSTON, Tex., Aug. 28.—In sympathy with the large overproduction from the East Texas Field the reported shipments of crude oil and refined products out from the Gulf Coast terminals during June, 1933, totaled 25,532,794.51 bbls. This is a substantial increase in these shipments over the previous month's report, which is believed to be due to the large daily production of the East Texas Field which averaged for June in the neighborhood of 882,837 bbls. daily. In addition to the above number of barrels of oil, the bunker oil used for fueling ships totaled 295,013 bbls. during the same month. In addition to the above crude oil shipments it is estimated that around 250,000 bbls. of crude oil was lifted from terminals not reporting.

The reported movements of crude oil and refined products during the preceding month totaled 21,621,480.29 bbls. Petroleum coke shipments during the month of June totaled 17,592 long tons, of which 8,350 tons was coastwise and 9,602 tons for export. These were from the Shell Petroleum Corp.'s Houston refinery.

There was a gain in the coastwise crude oil shipments for the month which indicates the peak season of consumption. While there was a decline in the coastwise shipments of refined products. There was also a good sized gain in the shipments of export refined products. Shipments by companies and terminals follow:

GULF COAST WATER SHIPMENTS, JUNE, 1933

Company and terminal—	Crude		Refined		Total
	Coastwise	Export	Coastwise	Export	
Atlantic P. L. Co.:					
Atreco	1,255,712.48	185,301.80	.....	.....	1,441,014.28
Harbor Island	378,489.77	.....	.....	.....	378,489.77
Texas City	341,135.33	.....	5,250.31	.....	346,385.64
Gulf Ref. Co.:					
Port Arthur	309,476.93	.....	1,718,500.51	61,608.25	2,089,585.69
Humble O. & R. Co.:					
Baytown	1,309,875.00	.....	1,730,889.60	469,562.55	3,510,327.15
Harbor Island	1,757,103.00	.....	.....	.....	1,757,103.00
Ingleside	67,426.00	.....	.....	.....	67,426.00
Neches	21,147.00	48,436.00	.....	.....	69,583.00
Texas City	436,568.00	.....	.....	.....	436,568.00
Magnolia Pet. Co.:*					
Beaumont	1,148,641.81	.....	1,268,539.90	.....	2,417,181.71
Pure Oil Co.:					
Smiths Bluff	402,569.00	.....	546,706.00	.....	949,275.00
Shell Pet. Corp.:†					
Houston	99,850.50	399,489.01	985,786.04	110,139.80	1,595,265.35
Norco	.....	.....	170,182.57	.....	170,182.57
Standard Oil Co. of La.:					
Baton Rouge	282,268.00	43,810.00	1,392,057.00	554,739.00	2,272,874.00
Sun Oil Co:					
Sabine Pass	1,434,431.35	.....	.....	.....	1,434,431.35
Texas Co.:					
Port Arthur	1,169,427.00	427,449.00	1,722,708.00	510,880.00	3,830,464.00
Miscellaneous:‡					
Houston	1,880,128.00	145,587.00	566,441.00	174,482.00	2,766,638.00
Total June	12,294,249.17	1,250,072.81	10,107,060.93	1,881,411.60	25,532,794.51
Total May	8,899,751.80	795,167.76	10,570,778.43	1,355,782.30	21,621,480.29
Difference	3,394,497.37	454,905.05	463,717.50	525,629.30	3,911,314.22

*Magnolia Petroleum Co. makes no distinction between coastwise and export.
†Petroleum coke shipped by Shell Petroleum Corp.: Coastwise, 8,350 long tons; export, 9,602 long tons.
‡Miscellaneous shipments from Houston were not included in the May report.

Smith Separator Co. Now Handles Fisher Products

Fisher Governor Co., Marshalltown, Iowa, manufacturer of automatic control specialties, has announced the appointment of Smith Separator Co., Box 2003, Tulsa, as sales representative handling Fisher equipment throughout Oklahoma and northern Texas. Smith Separator Co. is one of the oldest equipment companies, manufacturing and selling the well known Smith oil and gas separator. This organization has had many years, experience in the sale and service of Fisher controls and is in position to service the users of Fisher equipment.

In addition to several sales engineers in the regular Smith organization, C. D. Peterson, a graduate engineer, who has had nine years' experience in the design and operation of automatic controls in the Fisher factory, will be permanently located in Tulsa, to offer even fuller technical service. J. H. Fisher, president of the Fisher Governor Co., says the petroleum industry in the Mid-Continent Field will be served better as a result of this new sales plan.

REPRESSURING OPERATIONS

CHATHAM, Ontario, Aug. 26.—The repressuring plant of the Canadian Western Natural Gas, Light, Heat & Power Co. north of Burdett, Alberta, was closed down recently for repairs. Difficulty was experienced in procuring a proper reamer for the cylinders of the large engines used to force waste gas from the Turner Valley Field into the exhausted sands of the old Bow Island Field. Repressuring operations have been carried on almost continuously for two years.

EDMONTON GAS RATES

CHATHAM, Ontario, Aug. 26.—The city commissioners of Edmonton, Alberta, have been empowered by the city council to negotiate with Northwestern Utilities, Ltd., for a new rate agreement. The company supplies Edmonton with natural gas from the Viking and Kinsella Fields.

WILSHIRE LAYING LINE

LOS ANGELES, Calif., Aug. 26.—The Wilshire Oil Co. has started the construction of a 6¼-inch crude oil pipe line from Huntington Beach to Santa Fe Springs, a distance of approximately 20 miles. Present plans contemplate completion of this new line early in September.

Good Wells in Chase Townsite and the Hollow Pool, Harvey County, Features in Kansas

By JAMES McINTYRE

Good wells in the Chase townsite in Rice County and the Hollow Pool in Harvey County, and an important showing in a test in Barton County, characterized the high spots in the news from the Kansas fields in the past week. Not much new work was started and the number of completions were few, most of the drilling wells merely making hole, but not at interesting depths.

The matter of clamping down somewhat on the production of the Chase Townsite Pool came up for discussion before the corporation commission. A canvass of the nominations of oil buyers was made. The Sunflower Refining Co. agreed to take from 500 to 800 bbls. per day, Dickey Oil Co. 500 bbls., Golden Rule Refining Co. 500 bbls., Altitude Refining Co. 3,000 to 4,000 bbls., and Falcon Refining Co. 450 bbls. The Derby Oil & Refining Co. said it would take its own oil from the pool. This gave the pool a total outlet somewhere between 5,500 and 6,500 bbls. a day. The whole county at present is producing over 6,600 bbls. a day.

Potential tests were ordered to be taken on Monday, August 28, in the Stratman area in Ellsworth County. This was on the order of the corporation commission, which had received complaints of inequities in the taking of crude oil from the pool. The potentials will be made retroactive to August 20, as if taken under the original oil and gas division order No. 33-08-14.

Production of Pools

The estimated average daily production of a number of pools and fields in Kansas for the week ending August 26 and for the preceding week follows:

	Barrels	
Field or pool—	Aug. 26	Aug. 19
Hollow	13,725	13,505
Ritz-Canton	21,960	22,516
Voshell	6,950	8,458
Sedgwick County	9,655	9,672
Mabee (Nikkel)	7,105	8,460
Ellsworth County	3,285	3,303
Rice County	6,647	5,417
Barton County	348	410
Reno County	1,930	1,792
Greenwood County	11,250	11,100
Butler County	16,500	16,475
Other pools	29,570	27,817
Total	128,925	128,925

Developments in Hollow Field

In the Hollow Field in Harvey County, Texas Co. and Murray were rigging up standard tools to complete No. 2 Dyck, NW NE SW Section 8-22-3w.

Shell Petroleum Corp.'s No. 1 Nikkell, NW SE SW Section 8-22-3w, which had been acidized, flowed 330 bbls. in 24 hours. Same company's No. 3 Nikkell, SE SW SW Section 8-22-3w, total depth 3,583 feet, swabbed 270 bbls. of oil and 62 bbls. of water on the first day of its test after having been acidized, and made 308 bbls. of oil and 37 bbls. of water on the second day. Texas Co.'s No. 2 Andrees, NE NW SW Section 8-22-3w, flowed 2,500 bbls. of oil in 24 hours, with 12,000,000 feet of gas, from chat at 3,156-63 feet.

Hollow and others' No. 2 Schmidt, NW NE NW Section 17-22-3w, swabbed 400 bbls. in 20 hours from Hunton lime at 3,585 feet. The same operators have started drilling No. 3 Schmidt and have cellar and ponds ready for No. 4 on the same property. Skelly Oil Co. and Selby Oil & Gas Co.'s No. 3 Schmidt, SW NW NW Section 17-22-3w, swabbed 816 bbls. in 24 hours from Wilcox sand at 3,553-69 feet. Producers & Refiners Corp.'s No. 4 Martens, SE NE SW SE Section 17-22-3w, which found Simpson sand at 3,534-55 feet and Wilcox at 3,535-42 feet, and which swabbed 800 bbls. in 15 hours, later made 960 bbls. naturally in 24 hours. The same company was rigging up standard tools at a total depth of 3,143 feet to finish No. 5 Martens, SW NW SE Section 19, and made location for No. 6, NW SW SE of the same section. Skelly Oil Co.'s No. 4 Martens, NW SW SE SE Section 19-22-3w, swabbed 506 bbls. in 24 hours. This well had Viola lime at 3,531 feet, set 6-inch at 3,535 feet; found Wilcox sand at 3,559 feet, and drilled to 3,569 feet.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 3 Fraser, SW NW NW Section 20-22-3w, swabbed 588 bbls. in 14 hours and then was put on the pump and made 412 bbls. in 24 hours. The oil is from the Hunton lime at 3,473-91 feet, total depth 3,491 feet. W. C. McBride, Inc.'s No. 4 Schmidt, NE cor. Section 30-22-3w, had Hunton lime at 3,450 feet with a showing of oil; an increased showing at 3,455-60 feet, and salt water at 3,460-63 feet, total depth 3,464 feet. The hole was plugged back to 3,459 feet and the pay given a treatment with 1,000 gallons of acid. Test of production had not yet been made.

Hollow and others' No. 1 Heidebrecht, SW SE NE Section 36-22-4w, Reno County, was dry and abandoned at 3,673 feet.

McPherson County

In McPherson County, Continental Oil Co.'s No. 1 Tipton, NW SW NE Section 2-20-3w, had a showing of oil and gas at 3,026 feet, an increased showing at 3,040 feet and drilled to 3,053 feet. Work was shut down awaiting the erection of storage tanks.

Texas Co.'s No. 5 Munn, NE cor. Section 12-20-2w, an old well drilled deeper, was preparing to test with 800 feet of oil in the hole. The old total depth was 2,967 feet and the hole was deepened to 3,398 feet.

Marileen Oil & Gas Co. was rigging up to drill deeper in its No. 2 Munn, SW cor. Section 6-20-1w. The present total depth is 2,973 feet and the same company has rig up for No. 4 Munn, SW SE SW Section 6.

McPherson Oil & Gas Co.'s No. 3 Fleming, C NE NW Section 11-19-2w, had chat at 2,923-48 feet. The well made 300 bbls. of oil and 9,000,000 feet of gas in 24 hours.

Phillips Petroleum Co. and Shell Petroleum Corp.'s No. 2, CEL NE, Section 25-19-2w, got Viola lime at 3,405-14 feet. It tested 30 bbls. in 24 hours and may be acidized. Wolf Creek Oil Co. and others' No. 3 Krehbiel, NW cor., Section 25-19-2w, present depth 2,973 feet, was being rigged up for deeper drilling. Dickey Oil Co. had made location for No. 3 Williams, SE NE NW, Section 26-19-2w and No. 4 Williams, NE SE NW, Section 26-19-2w. Derby Oil Co. and Sinclair Prairie Oil Co.'s No. 3 Lacquement, SW SE, Section 20-19-1w, had Viola lime at 3,409-18 feet. It was acidized and the well swabbed 100 bbls. of oil and 60 bbls. of water. Later it was put to pumping and made 177 bbls. of oil and 192 bbls. of water in 24 hours. Youker and others' No. 5 Eaton, NW SE NE, Section 26-19-2w, drilling for gas, set 6-inch pipe at 640 feet and got 1,000,000-foot gas production in limestone at 650-857 feet.

Gleason and others' No. 1 Hamilton, NW SW, Section 28-19-1w, was drilling at 3,045 feet. This well had chat at 2,942 feet with a showing of gas; oil at 2,980 feet and a 25-bbl. showing at 3,002-04 feet, with 4 per cent water; a hole full of water at 3,035 feet. Keys Petroleum Co. has ponds ready for No. 1 Whitehall, NW NE, Section 29-19-1w.

Good Wells in Rice County

In the Chase Townsite Pool in Rice County Derby Oil Co.'s No. 1 Monroe, NE SE (Block 20), swabbed 188 bbls. in three hours. Top of Siliceous lime was found at 3,238 feet; a show of oil at 3,246 feet and the first oil showed at 3,244 feet, total depth 3,261 feet. E. F. Jones and others have rig up for No. 1 Santa Fe, SE NE SE, Section 31-19-9. Ramsey and others' No. 1 Hedges, NE SE (Block 4), Section 31-19-9, had Siliceous lime at 3,216-27 feet. It was pumped with a Reda centrifugal pump and made 1,848 bbls. in 24 hours. Ramsey and others were rigging up No. 1 Santa Fe, SE NE SE, Section 31-19-9w; have made a location for No. 1 Santa Fe, SW NW SW, Section 32-19-9w. Same operators' No. 1 City Park, Block 23, Section 32-19-9w, swabbed 300 bbls. in 24 hours at a total depth of 3,278 feet and were to give the well a pumping test. Same operators will start a test, No. 1 Beyer, Block 588, 880 feet south and 520 feet east of the NW cor. SW, Section 32-19-9. All the production in the Chase Townsite Pool is thus far coming from wells in Sections 31 and 32-19-9w.

Sinclair Prairie Oil Co. was rigging up rotary to start No. 1 Specht, NE SE, Section 20-20-10w, Rice County, and Mid-Kansas Oil & Gas Co. has made a location for a test on the Proffitt farm, NW cor., Section 5-20-9w, in the same county. The Sharp Pool in Rice County is located in Sections 18-20-9w and 13-20-10w, and the Raymond Pool in Section 21-20-10w.

In Ellsworth County Derby Oil & Refining Co. is rigging up rotary for No. 2 Stratman, NW NE, Section 12-17-10w.

Barton County

In Barton County the Stanolind Oil & Gas Co.'s No. 1 Gerloff, C SE SW, Section 9-20-11w, was treated with acid a second time and made 116 bbls. on the pump in 24 hours. It had been plugged back to from 3,339 to 3,330 feet. Hilligoss and others' No. 2 Isern in Section 12-20-11w had a hole full of oil from pay at 3,318-21 feet. Five-inch pipe was set at 3,314 feet.

In Greenwood County

Bailey and others' No. 1-A Elrod, SE NE NW Section 7-22-12, Greenwood County, was drilling at 350 feet. Wright & Bailey were drilling at 1,807 feet after penetrating sand at 1,780-1,800 feet in No. 1-A Swanson, SE NE SE Section 9-22-12. The ElBar Corp. abandoned a test on the Funkhouser farm, NE SE SE Section 22-22-13, after passing through Mississippi lime at 1,830-60 feet and finding it barren. Derby and others got a 10-bbl. pumper out of No. 7 Young, NE SE SE Section 22-22-13.

R. Mendenhall's No. 3 Gilroy, SE NW Section 5-25-13, is a 600,000-foot gas well at 1,423-72 feet.

Maralyn Oil Co. abandoned No. 1 Harsh, NE SW Section 33-23-8, at 2,600 feet. It was dry.

Sumner County

In Sumner County, Deal's No. 1 Thompkins, SW cor. Section 26-33-1e, was abandoned as a failure at 4,005 feet.

(Continued on Page 68)

Wildcat Operations in Kansas

(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location—	Remarks:
Atlantic O. P. Co.'s No. 1 Schneider, C NE SW	Rig.
Helmerich & Payne's No. 1 Everhigh, C SW SE Sec. 13-18-13w	Set 20-in. 85 ft.; drlg. 470 ft.
Skelton et al's No. 1 Ott, C SE SE Sec. 16-19-14w	O.W.D.D.; T.D. 3,607 ft.; C.O.

BUTLER COUNTY

Hartman et al's No. 1 McCann, SE SW NW Sec. 7-25-3	Drlg. 3,104 ft.
Marylyn Oil Co.'s No. 1 Harsh, NE SW Sec. 33-23-8	Dry and abd. 2,600 ft.

COWLEY COUNTY

E. Yarnell's No. 1 Speer, SE NE NE Sec. 31-33-6	S.D. 1,400 ft.

GEARY COUNTY

Ledaurin' No. 1 Fechner, C SE NE Sec. 27-12-8	S.D. 967 ft.

GRAHAM COUNTY

Schleimeyer et al's No. 1 Smith, SE Sec. 24-8-25w	S.D. 4,180 ft.

HARVEY COUNTY

Holbert Oil Co.'s No. 1 Harder, SE SW SE Sec. 11-23-1e	Spudding.
L. H. Wentz' No. 1 Bestvater, SW SE SW Sec. 8-22-1e	12-in. at 1,282 ft.; drlg. 1,608 ft.

KINGMAN COUNTY

D. R. Lauck et al's No. 1 Church, SE SW NE Sec. 10-28-6w	10-in. at 2,947 ft.; drlg. 3,010 ft.

MARION COUNTY

Hutchinson Oil & Gas Co.'s No. 1 Miller, NW cor. Sec. 6-17-3	S.D. 2,700 ft.

McPHERSON COUNTY

Sever and Hessman's No. 1 Scrag, S½ SE Sec. 22-19-4w	Rig on ground.
Gaume & Maxwell's No. 1 Goering, NE SE SW Sec. 24-23-2w	Rig.
Investers Mineral Dev. Co.'s No. 1 Kaufman, SE Sec. 35-21-3w	Rig.
Roth & Faurot's No. 1 Swanson, NE SW NE Sec. 13-19-3w	Rig.

NORTON COUNTY

Jim Madison's No. 1 Boesker, SE NW Sec. 29-20-1w	Rig.
Moody Seagraves' No. 1, NW Sec. 24-2-22w	Drlg. 1,150 ft.
Paramount Oil Co.'s No. 1 Steinkirchner, NE SE SE Sec. 25-19-1w	Rig.

PRATT COUNTY

Ninnescah O. & G. Co.'s No. 1 Hardesty, SW SE SE Sec. 28-27-11w	H.F.W. 4,417-27 ft.; pulled 5-in. pipe and P.B. to 3,640 ft.

RENO COUNTY

Mylius et al's No. 1 Patton, SE NE Sec. 35-23-5w	Drlg. 2,650 ft.
Roth & Faurot's No. 1 Yoder, C NW NW Sec. 15-24-5w	Spudding 135 ft.

RICE COUNTY

Garden et al's No. 1 Thodel, C NW NW Sec. 11-21-7w	T.D. 3,270 ft.; U.R. 8-in.
Langston et al's No. 1 Wells, NE SE Sec. 4-20-9w	T.D. 3,298 ft.; H.F.W.; abd.

ROOKS COUNTY

Kruger's No. 1 Rathburn, SE NW SW Sec. 14-9-16w	Rig.

SUMNER COUNTY

Deal O. & G. Co.'s No. 1 Tompkins, SW cor. Sec. 26-33-1.	Dry and abd. 4,005 ft.

WOODSON COUNTY

F. Fiele's No. 1 Munson, SW NE SW Sec. 9-25-14	Dry and abd. 1,501 ft.

XUM

Well in the Zwolle District Flowing 800 Barrels; Promise of Two Good Wells in Converse

By D. H. BANCROFT
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Aug. 28.—An 800-bbl. well in Zwolle and promise of a 200-bbl. producer in Converse with indications that the latter area will add another 50 or 75-bbl. producer during the coming week reversed the deadly dullness of this territory during the past two or three weeks. The Zwolle well, in Sabine Parish, was Magnolia Petroleum Co.'s No. 1 Gringratt, SW NW Section 30-8-11. With top of the Zwolle chalk at 2,250 feet it was dry at 2,278 feet, drilled to 2,470 feet and came in flowing through casing. The anticipated 200-bbl. producer is R. L. Gay's No. 1-B Bowman-Hicks, SW NE Section 22-9-13, a mile and a half south and east of nearest production and three-quarters of a mile north of Nick Barbare's dry hole in the NW NW Section 27-9-13. A week ago it tested an estimated 5,000,000 feet of gas with a spray of oil on drill stem test at 1,880-1,988 feet, cemented back to 1,938 feet, and came in unexpectedly. Barbare's well on the Ryals lease had 250 feet of oil in the hole from 1,991 feet, used acid and failed to respond and probably will be abandoned. It begins to look as though, except for the group of wells in Sections 19, 20 and 21-9-13, Converse will be a repetition of Zwolle, though there is much vacant territory between this group and outlying wells to be explored. Windsor Oil Co.'s No. 1 Graham, SE NW Section 20-9-13, in the center of production in Converse territory, showed for 50 to 75 bbls. from 1,561 feet, cemented 6⅝-inch at 1,557 feet and was drilling plug.

The rise in prices on North Louisiana and Arkansas oil, led off by Standard Oil Co. of Louisiana August 25, ranging from 5 to 10 cents per barrel, leaves the fraternity in this district in a more hopeful attitude and will encourage the blocking and wildcatting that has been slowly increasing from month to month all this year. There will be numerous shallow tests to 3,500 feet and several to 5,000 feet and below. Half a dozen blocks are being assembled south and southeast of El Dorado, Ark., two or three of which are for tests to 4,000 feet or below and at least two for 5,000 feet. There is also some whispering of prospects for another 7,000-8,000-foot hole in Smackover territory, though the latter will not be made at any time in the immediate future.

Fourteen completions in the territory netted one 800-bbl. producer, as referred to, five gas wells netting a total open flow of 32,550,000 feet, one of them in Sligo district of Bossier Parish, one in Sugar Creek district of Claiborne Parish, one in Morehouse and two in the Ouachita Parish division of the Monroe gas field.

East Texas border counties had five failures, Arkansas an abandoned rig and Louisiana eight dry holes.

Completions

Completions were: Pine Prairie Oil Co.'s No. 1 Coco, SW SW Section 36-1n-5e, Avoyelles Parish, location abandoned; United Gas Public Service Co.'s No. 1 Ed Webb, Section 23-17-12, Sligo district, Bossier Parish, old well drilled deeper from 858 feet to 2,462 feet, where it gauged 13,500,000 feet of gas at 490 pounds; United Gas Public Service Co.'s No. 1 Durrett, NE SE Section 31-20-5, Sugar Creek district of Claiborne Parish, 5,000,000 feet of gas from 4,328 feet; A. F. Tarver's No. 1 H. M. Means, NW NW Section 25-14-13, De Soto Parish, dry and abandoned at 3,004 feet after a show of gas that looked like it might make a well; United Gas Public Service Co.'s No. 2 Taylor-Sandidge, Section 12-20-4e, Morehouse Parish, 200,000 feet of gas at 490 pounds from 2,234 feet, and No. 1 fee 132, Section 2-19-3e, Ouachita Parish, 11,610,000 feet of gas after a shot of acid at 2,171 feet; Inabnet & Pipes' No. 1 Nelson, Section 4-18-4, Ouachita Parish, 2,240,000 feet of gas from 2,193 feet; Magnolia Petroleum Co.'s No. 1 Gringratt, SW NE Section 30-8-11, Zwolle district, Sabine Parish, as referred to; E. F. Neely's No. 7 S. D. Ponder, NW SW Section 15-7-11, Zwolle, dry and abandoned at 2,598 feet; Crumm and Stillwell's No. 1 Bell, Section 10-10-12, Cleveland County, Arkansas, rigged up and abandoned; T. H. Pardoe and others' No. 1 S. A. Orr, C. W. Morse Survey, Cass County, Texas, dry and abandoned at 2,160 feet; Baunoch Development Co.'s No. 1 Miller, H. Fullgram Survey, Marion County, junked and abandoned at 4,900 feet; Dragon Oil Co.'s No. 1 R. W. Player, M. G. Noll Survey, Marion County, showed oil, abandoned at 2,428 feet; Daisy Oil & Gas Co.'s No. 1 Rucks, John Palmer Survey, Panola County, small show of gas, dry and abandoned at 2,291 feet.

New Operations

Eight new operations were begun in addition to the several more permits that were taken out for wells that may or may not be drilled—many permits are taken out for Louisiana operations every week, but until the location is actually staked or derrick is up and rigged they are not picked up on the field reports. Five of these new operations were in North Louisiana territory, one in Arkansas and two in East Texas border counties. Capitol Oil & Gas Co. has derrick up for No. 1 W. D. Noel Estate in the NE NE Section 12-20-16, Caddo Parish; George Greer and others' No. 3 Louisiana Central Lumber Co., NE NE Section 2-9-6e, Catahoula Parish, where they have developed commercial gas if they can get past or rid of salt water in two previous tests to the south, began drilling and will cement surface string from top to bottom in an effort to determine definitely whether the gas is coming from the base of the Jackson at around 900 feet and where the water is coming from. It is a Conroe-Jackson trend wildcat and with the other two will be the most promising of any of the numerous tests that have been made in that play this year. Gravel Point Syndicate (R. O. Roy and associates) staked location for No. 1 Guy in the SW cor. SW SW Section 4-14-12, De Soto, one of five proposed tests in the common corner of Sections 3, 4, 9 and 10, approximately 8 miles northeast of the Holly Field, which Roy uncovered in 1930 and sold to Standard Oil Co. of Louisiana. Crescent Drilling Co. made location for No. 2 Billbray in the SE NW Section 29-8-11, Zwolle district of Sabine Parish; Arkansas State Oil & Gas Co. has derrick up for No. 1 fee, in the C NE NE Section 13-11-3e, Poinsett County, Arkansas; Dragon Oil Co. skidded 100 feet south of No. 1 R. W. Player, M. G. Noll Survey of Marion County—referred to above—and will drill No. 2 on the same lease following what would have been a commercial well except for junking the hole at the last minute. Location is 3 to 5 miles west of production in the Trees City district of the old Caddo, Louisiana, field; N. E. Hoffman and others have rig up to drill No. 1 H. Lennox in the SW cor. of the Levi Bankston Survey of Red River County.

Daily Average Runs

Daily average runs from the field for the territory, totaling 57,450 bbls., were 190 bbls. less than last week. Louisiana runs of 26,155 bbls. were 55 less than last week's and Arkansas' 31,295 bbls. was a decline of 135 bbls. Runs from the several fields, in which Miller County, Arkansas, despite a new 4-inch line giving it its first pipe line outlet, failed to register a single barrel shipped out, were:

NORTH LOUISIANA	
Caddo, light	4,650
Caddo, heavy	1,430
Converse	335
Cotton Valley	480
De Soto-Red River	1,585
Elm Grove	300
Haynesville	3,740
Holly	205
Homer	2,690
Pleasant Hill	190
Sarepta-Carterville	780
Urania	2,555
Zwolle	7,215
Total	26,155
Last week	26,210
Decrease	55
ARKANSAS	
Champagnolle	1,330
El Dorado	2,620
Lisbon	400
Miller County	0
Nevada County	565
Smackover, light	2,525
Smackover, heavy	21,900
Stephens	620
Urbana	1,335
Total	31,295
Last week	31,430
Decrease	135
Both states	57,450
Last week	57,640
Decrease	190

NORTH LOUISIANA

H. I. Morgan's deep test on the southwest flank of Bellevue shallow field, No. 2 Smith, Section 22-19-11, Bossier Parish, was coring shale and lime at 5,458 feet, 6 miles southwest of Bellevue and in territory that Jensen and others prospected several years ago with more or less favorable results but no production. Jensen Mixon and Gutzler's No. 1 Ledbetter, SW SW Section 6-18-11, is shut down at 1,320 feet. B. A. Sherrell's No. 1 fee, NW NW Section 18-19-11, 3 miles west of Bellevue production, was dry at 2,047-51 feet and was coring gray sandy shale at 2,063 feet. Calatex Oil & Gas Co.'s No. 1 G. M. Agure, Section 9-16-16, Blanchard gas district of Caddo Parish, was drilling at 2,990 feet— about 200 feet deeper than production is usually found in that area. J. B. Hutchinson's No. 1 Storey Phillips, SW NE Section 28-16-13, a wildcat in the southwest corner of Caddo Parish, missed drill-stem test at 990-1,015 feet and was arranging to make another test at 1,040-50 feet.

E. T. Oakes has rebuilt wrecked derrick on No. 1 Bryant and others, De Soto Parish's ranking deep hole in Section 30-13-15, at Longstreet, and was drilling plug. This test, total depth 4,614 feet, has been holding a prominent place in the attention of the fraternity in this territory for a variety of reasons—the shows it has had, the fact that until it reached 4,454 feet there was only 80 feet of 10-inch pipe in the hole for casing and that it is reputed to be one of the straightest—if not the straightest—holes ever drilled in this territory. Figures as to the deviation were not available at this writing, but it is understood that it is very slight, and it is admitted that although it has been drilling since March, 1931, it is the most carefully and thoroughly drilled and cored test that has been made here in years.

George L. Pace's No. 1 Cole, SE NE Section 11-11-11, De Soto Parish, topped the chalk at 1,009 feet, was out of it at 1,616 feet into 4 feet of broken sand showing oil and cemented 6⅝-inch at 1,650 feet. Winters and others' No. 1 Smith, SE SE Section 31-14-15, De Soto

(Continued on Page 68)

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

BIENVILLE PARISH

Company, well, farm name, section and block—	Remarks:
Poole & Johnson's No. 1 H. E. Sudduth, 1,170 ft. E and S, C Sec. 28-14-16	Derrick.

BOSSIER PARISH

J. A. King et al's (was A. W. Phillips, tr.'s) No. 1 Oden, 300 ft. W, 150 ft. N, SE cor. NW NW Sec. 4-18-13	S.D. 1,704 ft.
W. D. Ball's Hicks Grocery Co. (was Dr. C. R. Reed, tr.'s) No. 1 C.J.&B., Sec. 18-16-11	Began drlg. Aug. 15; 10-in. 40 ft; drlg. 800 ft.
B. A. Sherrell, tr.'s No. 1 fee, NE NW NW Sec. 18-19-11	Coring gray sandy shale 2,063 ft.

CADDO PARISH

J. B. Hutchinson, tr.'s No. 1 Story Phillips, 330 ft. N and E, SW cor. SW NE SE Sec. 28-16-13	Arranging D.S. test; T.D. 1,050 ft.
J. T. Humphrey et al's No. 1 Powell, 330 ft. N and E, SW cor. NW SE Section 14-19-15	Rig up.
John F. Kerper's No. 1 Barron, 350 ft. N and W, SE cor. NE SE Sec. 27-16-14	Fishing for junk 2,703 ft.
A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. SW SW Sec. 4-14-16	Began drlg. Aug. 10.

CATAHOULA PARISH

Geo. Greer et al's No. 3 La. Central Lbr. Co., 775 ft. E, 260 ft. S, NW cor. NE NE Sec. 2-9-6	Began drlg. Aug. 21; drlg. 100 ft.

DE SOTO PARISH

Bailey Gantz et al's No. 1 Jenkins, NW cor. SE SW Sec. 35-13-13	Moving in heavy rig; T.D. 3,090 ft.
J. H. McKenzie's (was P. B. Dyer's) No. 2 B. F. Jenkins, 330 ft. N and E, SW cor. NW SW Sec. 35-15-13	S.D.; repairs 1,440 ft.
Hirschfield-Bailey Interests' No. 1 Mickie, 660 ft. N and E, SW cor. SE Sec. 7-13-12	Drlg. 1,072 ft.
Geo. L. Pace's No. 1-B Cole, 150 ft. N and E, SW cor. SE NE Sec. 11-11-11	Cmtd. 6-in. 1,650 ft.
N. B. Porter's No. 1 J. W. Porter Est., 330 ft. N and E, SW cor. SE SE Sec. 23-12-13	Coring 1,040 ft.

EAST CARROLL PARISH

Marr & Collins' No. 1 Desha Lbr. Co., NW Sec. 42-21-12	Derrick.

(Continued on Page 64)

Important North Government Wells Extension; Interesting Oil Showing in Hidalgo County

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Aug. 28.—Smith & Story completed No. 4 Lundell, Survey No. 48, 150 feet from the south and east lines of the southwest quarter of the northeast quarter, Duval County, 1,800 feet southwest of production in the North Government Wells Pool, for a 75-bbl. well per day in sand at 2,268-82 feet, an important extension of the pool, and then promptly made location for No. 5 Lundell, 150 feet from the north and east line of the south half of the southwest quarter of that survey, approximately another 2,000 feet southwest of No. 4. This was one of the most important happenings of an otherwise quiet week except for a heavy report on new locations. This makes the North Government Wells Pool approximately 24,000 feet long northeast and southwest and makes it the biggest and most important pool in the Laredo district.

Another feature of the situation is that there are no dry holes northeast or southwest to definitely mark limits of the field for some considerable distance in each direction.

Northeast of the North Government Wells Pool, De Soto Oil Co.'s No. 2 Wood-Welder in Survey 211, located 660 feet east of the company's No. 1 which made a gas well in the Government Wells sand, tested salt water and is drilling deeper. It was located just east of the gasser on the usual theory that down the dip to the east from gas would get oil, but it failed. However, it is about 2½ miles northeast of nearest production. Most of the acreage in between is leased to Humble Oil & Refining Co. and some to Navarro Oil Co., and these two have been working their way north one location at a time and getting good wells.

O. W. Killam has rigged up for his No. 1 Wood-Welder, another mile north of De Soto's test.

On the southwest end a number of new locations have been made the past week. Wilkins Seacord made four locations in the north half of the southwest quarter of Survey No. 48, No. 1 Lundell, being 150 feet from the north and east lines of that tract and Doctor Edgington made location for his No. 2 Lundell, 200 feet from the north and east lines of the south half of the southeast quarter of Survey No. 48, so that approximately 2,000 feet more to the southwest will be either proved or condemned as soon as these tests are drilled.

In wildcat circles of Duval County interest late in the week centered in Conway & Campbell's No. 1 Hoffman in Sophie Hoffman Survey No. 114, 5 miles southeast of the Sarnosa Pool, which was reported in a sand a little below 2,485 feet. It ran about 80 feet high on top of the Jackson at 1,965 feet.

Hidalgo-Starr Counties

Chancellor and Hall's No. 1 Garcia Land & Cattle Co. in Porcion No. 42, in the extreme southwestern corner of Hidalgo County, late in the week had a showing of oil in sand at 3,179-87 feet. The showing of oil was so good it was determined to set casing without waiting for a drill stem test. While drilling into the sand it was necessary to thicken the mud due to the pressure and the showing has created considerable excitement. This test is linked up pretty much with the Starr County activity and is the most interesting feature of the week in that district.

Wildcatting in Starr County did not change its complexion much during the week except that Sun Oil Co.'s No. 1-C Guerra, half mile south of the discovery well, was successfully plugged back from 3,190 to 2,188 feet and made an estimated 30,000,000-foot gas well with 800 pounds pressure. The company is down 1,600 feet or more on No. 2-A, 1,500 feet southeast of No. 1-A discovery well, and has made location for No. 3-A Guerra, about 3,450 feet southeast of No. 1-C Guerra. The field thus far consists of the discovery well, No. 1-A Guerra, a big gas well making 15 bbls. of oil an hour when opened up from sand at 2,208-32 feet; No. 1-B Guerra, a half mile north, a failure; No. 1-C Guerra, a half mile south of the discovery well, a 30,000,000-foot gas well in sand at 2,141-88 feet; and No. 2-A Guerra, 1,500 feet east of No. 1-A, and drilling, and No. 3-A, a location. Also W. A. Smith has a location a mile west of Sun's discovery well.

As a result of Sun's success there will be some drilling in Jim Hogg County on the north. DeWitt C. DeWitt's No. 1 A. C. Lopez in Survey No. 106, about 7 miles north and slightly west of the Sun's discovery well, has been standing at 1,662 feet and has now cleaned out to the bottom and is starting to make new hole. Jack Tarver last year drilled No. 1 Martinez, 1½ miles north of DeWitt, and abandoned it dry at 3,044 feet, but it had some nice showings. The rig is still on the lease and another test is now being planned. These tests all follow along the natural trend, and encouraged by Sun's success in opening a new pool, wildcatters naturally will get more active. It is easier to finance deals in that part of the country.

Over in the eastern part of Starr County, around the new pool opened by Jeffries-Lambeth Drilling Co., three tests are getting started: Shankle's No. 1 M. M. Garcia, about 1 mile north and slightly east of the Jeffries-Lambeth well; Harrison and others' No. 1 Garcia, due east of Jeffries-Lambeth; and Goodwin & Yantis' No. 1 Kelsey Bass in Porcion 86, 2 miles northwest, are all three rigged up and ready to start.

McMullen County

Shumway abandoned his third test on the Shiner ranch in central McMullen County the past week at 2,520 feet. It had the Government Wells sand at 2,072 feet, but it carried salt water. There is still due to be a lot of play up through McMullen County following the Government Wells trend. Paul C. Teas has made locations for two tests on the Hagist ranch, one in Survey 181 and the other in Survey 25 of the H.&T.C. Ry. Survey, Block 5. No. 2 Hagist, 330 feet from the north and west lines of Section 25, is about 2½ miles northwest of where Teas and Gant made a location last year in Section 24.

Farther northeast in Live Oak County, Sheldon & Snider had a showing of gas at 1,071-93 feet in the Mirando sand and were reaming to make a test, and J. H. Durbin's No. 1 Marbach had a showing of oil in the Pettus sand at 900 feet and was arranging to make a test.

Bee County

Some new activity is starting in Bee County, Grisham and others having made location for No. 1 Powell, about 2 miles northeast of Beeville.

Balcones Fault Activity

C. J. Webster Oil & Gas Co. was down several hundred feet at the close of last week in No. 1 Fulps and has made locations for other tests in the same territory in Caldwell County southwest of the Dale Field. His No. 1 Fulps is a little east of his No. 1-A McCrory, which made a crevice well in the chalk, and the company is endeavoring to open an Edwards lime pool.

One of Webster's new locations is No. 1 J. Sheeley, 150 feet from the north and west lines of the Sheeley 20-acre tract in the Pinchback Survey, east of No. 1 Fulps, now drilling, and the other is No. 2 W. W. McCrory, 150 feet from the south and west lines of the McCrory 70-acre tract in the John A. Neill Survey, southeast of No. 1-A McCrory, which is the crevice producer.

Down near the Branyon well in the Dillard Cooper Survey to the southwest, Cargill's No. 1 Brown got sulphur water in the Edwards lime, total depth 2,350 feet, and will probably be abandoned, but northeast, Judge R. L. Batts' No. 2 Roebuck, in the Arthur Swift Survey, topped chalk at 2,130 feet with total depth 2,158 feet, is running casing. It looks as though it might make a well. It is approximately 3 miles northeast of Webster's crevice producer on the McCrory, and with a shallow gas well at around 900 feet drilled a few years ago about half way between them, and the only other production.

The first of three Edwards lime tests in Guadalupe County was announced the past week. L. E. Trout made location for No. 1 Mrs. McKee, 650 feet from the west line and 150 feet from the north line of 239-acre tract in the Green DeWitt Survey. It is about 7 miles southwest of the southwest end of Darst Creek Field and is a further effort to pick up production on an extension of the Darst Creek fault. Two other operators are planning each on an Edwards lime test in Guadalupe County.

Laredo Organizes

Independent operators of Laredo have organized the Co-operative Producers of Mirando Crude. A temporary organization was perfected with L. A. Nordan as the chairman and a further meeting is to be held to form a permanent organization. The object has not been fully defined yet and given out officially, but is understood to be to work for a market for Mirando crude, to get before the world the desirable antiknock qualities of the crude and further work to the mutual advantage and benefit of the independent producers.

Miscellaneous

W. A. Smith has spudded in No. 1 C. A. Holzapfel in Survey No. 42 in the extreme northwest corner of Duval County and considerably to the west of any line of pools.

Jeff Love and Lonnie Evans have made location for a test 15 miles west of Rocksprings in Edwards County on the Steve Brown farm in Section 66 of the G.W.T.&P. Ry. Co. Survey. The contract has been let for a 3,000-foot test, and the permit taken out calls for 7,000 feet.

The Pool in Bastrop County near Cedar Creek discovered by Marts & Beavens is getting its first extensions. Marts & Beavens' No. 3 Reyes, a little east of No. 2, which is the discovery well, came in at total depth of 1,706 feet with casing set at 1,680 feet for 150 bbls. daily, and Joe Mills' No. 1 Voss (first reported as No. 1 Smith) has set casing with total depth of 1,778 feet. No. 3 Reyes is the first producer since the discovery well came in.

F. J. Von Delden has taken over J. J. Christie's No. 1 W. M. Bennett in the J. Ingram Survey in Hays County, 6 miles west of Wimberley and is rebuilding the derrick and getting ready to spud. This test has the unusual feature that it is an effort to find a supply of helium gas. The contract depth is 1,800 feet, which is expected to take it into the Pennsylvanian. A well drilled a few years ago on a tract in this lease block found a flow of gas, but caved in and the hole was lost. However, a sample of the gas was tested and found to have helium content 62 per cent, inert 28 per cent, arsenic 1, zinc sulphate 4 and phosporous 5.

Wildcat Operations in Southwest Texas

Week Ending August 26

Company, well, farm name, section and block—	Remarks:
ATASCOSA COUNTY	
A. Blume's No. 1 Shaw, 690 ft. from N line, 1,780 ft. from E line of 100-ac. tract in W. Farquhar Sur. No. 375	T.D. 1,996 ft; twisted off D.S.
E. C. Burton's No. 1 Smith-Mowinkle, 3,100 ft. from N line, 200 ft. from W line of F. Peres Sur. No. 172.	T.D. 690 ft.; standing.
BASTROP COUNTY	
J. E. Emanuel's No. 1 H. Klemm, 317 ft. from W line, 300 ft. from S line of tract in R. S. Teal Sur.	T.D 850 ft; standing.
Ca-Tex O. & G. Dev. Corp.'s No. 1 Harris, 150 ft. from NW line, 3,000 ft. from SW line of John Maxmillan Sur.	T.D. 2,370 ft.; swbd. dry.
Ca-Tex O. & G. Dev. Corp.'s No. 1 Pendergrass, 1,343 ft. from NE, 310 ft. from SE line of 130-ac. tract in Henry Warnell Sur.	Rigged up and S.D.
Hinton & Dodson's No. 1 Moncure, Highsmith and Burton Surveys, in M. Rosseau League, 8 mi. SW from Bastrop	T.D. 2,818 ft.; dry and abd.
Three Oil Co.'s No. 1 M. Ingram, 1,250 ft. from SW line, 940 ft. from SE line of tract in M. Morgan Sur.	Derrick.
BEE COUNTY	
Holland Oil Co.'s No. 1 Copeland, NE cor. of 400-ac. tract in Pace Sur.	Spudded in.
Nichols & Bruner's No. 1 Grover Heidenfels, 891 ft. to S line, 1,950 ft. to E line of 337-ac. tract survey, John Bryan, 4 miles S from Beeville	T.D. 4,900 ft.; abd.
BELL COUNTY	
Gus Winston et al's No. 3 Warrick, 100 ft. N of James Scoggins' No. 1 Warrick, in Elijah Ingram Sur.	T.D. 1,046 ft.; pulled csg. and S.D.
R. S. Wilson's No. 1 Davenport, 200 ft. from W line, 700 ft. from S line of J. L. Herred Sur.	T.D. 1,062 ft.; standing.
BEXAR COUNTY	
O. N. Beer's No. 1 S. W. Kearney, 150 ft. from S and E lines of 28-ac. tract in S. C. I. Peres Sur.	T.D. 1,472 ft.; abd.
F. J. Von Delden et al's No. 1 Frank Webber, 150 acres in J. Montez No. 6	T.D. 40 ft.; drlg.

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XUM

Increasing Number of Operations in Greta Area; Tomball Revived by North Extension Well

By W. A. SPINNEY
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Aug. 28.—The increasing number of new operations in the Greta district in Refugio County in lower Gulf Coast territory is making this area a close second to the Conroe Field in the number of active operations that are in progress. During the week several of the completed wells in the field were opened for a production test and some made as high at 1,700 bbls. a day but the appearance of water in some of these wells indicated that in the future the production from this area must be controlled and the wells produced under strict observation for the operators to derive the best results and get the most accumulative recovery. An unusual condition that has kept the operators guessing is the fact that wells increase their output of oil after they have been completed. The daily average production has been in the neighborhood of 8,500 bbls. from nine completed wells for the week ending August 25. All of the wells are producing through a one-quarter inch choke.

One of the wells in the southeast part of the field was drilling below the pay horizon that has been found so uniform in all the present producing wells in the field, indicating that the producing limits may be near in this part of the Greta Field. The well is Nesral Oil Co.'s No. 2 Wilson Heard, M. J. Ximenes Survey, which was drilling at 4,508 feet on August 25. The pay horizon in all of the wells in the Greta Field has been found around 4,400 feet and a remarkable factor is the regularity with which all the completed wells have found the depth of the pay sand. Some geologists express the opinion that the main part of the Greta Field is as flat as a billiard table.

Six New Operations at Greta

Six new operations were announced during the week ending August 25, bringing the total operations in the Greta Field to 35. A total of 21 operations were drilling and the balance were locations and derricks.

Humble Oil & Refining Co. completed its 10 miles of 6-inch pipe line into the Greta Field giving this area its second outlet, the other pipe line into the field being the Atlantic Pipe Line Co.'s 8-inch line. The Humble Oil & Refining Co. also announced its first posted price for oil in the Saxet and Greta Fields on August 24, when it announced it would pay 55 cents flat for all oil produced.

The Texas Co. also announced its price for Saxet and Greta Fields on August 25, when the price announced was 55 cents flat per barrel. The Texas Co. purchases the oil in the Greta Field and ships the oil out through the Atlantic Pipe Line to Harbor Island. The Atlantic does not post prices for Saxet or Greta Fields.

The Humble Oil & Refining Co.'s new pipe line is an extension from Refugio Field. Its main pipe line, which is 10-inch, runs from Pettus to Refugio to Ingleside. The total capacity of the pipe lines in the Greta Field is around 35,000 bbls. daily at the present time and this could be stepped up to approximately 45,000 bbls. if necessary.

The Tomball area in northern Harris County is being revived by the completion of a good well in the north extension of the field. Continental Oil Co.'s No. 1 Petrich, Joseph House Survey, made 15 bbls. of pipe line oil an hour through a quarter-inch choke from a total depth of 5,588 feet. It is the fourth oil well to be completed in the Tomball Field.

Continental Oil Co.'s well is the east offset to Magnolia Petroleum Co.'s No. 1 Rudel, which was completed earlier in the week for 1,500,000 feet of gas a day and 60 gallons of distillate per hour from a total depth of 5,554 feet. This well was reworked after it had been drilled to a total depth of 5,610 feet where it found salt water and was then plugged back to its present depth.

Both the Continental Oil Co. and Magnolia Petroleum Co.'s wells are about 1½ miles north of the other producing wells in the Tomball Field. In the field there are three gas wells and four oil wells making approximately 1,200 bbls. daily.

Humble Oil & Refining Co.'s No. 1 Bloecher, J. N. Hooper Survey, is nearing the pay horizon, drilling in sand at 5,521 feet. Same company's No. 1 Gebhart, William Perkins Survey, over a mile southeast of production, is drilling around 4,600 feet in shale. The same company's No. 1 Hendricks, William Hurd Survey, west extension test, is drilling at 1,500 feet. These three tests are the only active operations in the Tomball Field which at one time was considered to be another Conroe in size, according to the structure.

Texas Co. has made two locations for tests in the Tomball Field. One is on the Emil Mueller, J. M. Hooper Survey, northeast of the discovery well about a half mile and between the discovery well and the townsite of Tomball. The other is No. 1 Martens, C. Goodrich Survey, midway between the discovery well and the Magnolia Petroleum Co. and Continental Oil Co.'s recently completed wells, in the north extension area of Tomball. These operations are the initial tests of the Texas Co. in the Tomball Field.

Gulf Coast Fields and Wildcats

Week Ending August 26

DAMON MOUND—BRAZORIA COUNTY

Company, farm and location—	Remarks:
Intercoastal Oil Co.'s No. 11 Wisdom, 350 ft. E of No. 6, Blk. 51, Lot D, A. Durst Sur.	Drlg. shale 2,250 ft.
Sinclair Prairie Oil Co.'s No. 31-A Bryan, 155 ft. N, 45 deg. E of SW cor. of Blk. 28, Masterson Subd., and 140 ft. S, 45 deg. E, A. Darst Sur.	T.D. 7,586 ft.; standing.

MANVEL—BRAZORIA COUNTY

Texas Co.'s No. 1 Belcher (W.O.), 157 ft. SE of NW line and 223 ft. NE of SW line of Lot 18, Blk. A, Suburban Gardens Subd, H. N. Little Sur.	T.D. 5,537 ft.; cmtd. 9⅝-in. csg. 5,463 ft.; drlg. out cmt.
Texas Co.'s No. 6 Belcher, H. N. Little Sur., South 42° W 2,400 ft. and S 48° E 400 ft. from N cor. lease	Drlg. shale 3,750 ft.
The Texas Co.'s No. 2 Davis, 300 ft. out of S cor. Lot 42, H. N. Little Sur.	T.D. 5,812 ft.; cmtd. back to 3,790 ft. to test shallow sand.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 4-A Barber (W.O.), Henry Griffith League	Drlg. sandy shale 5,312 ft.
Mills Bennett Prod. Co.'s No. 1-C Barber, Henry Griffith League, 100 ft. E, 30 ft. N of SW cor. of tract	Drlg. out cmt. 4,293 ft.
Mills Bennett Prod. Co.'s No. 5 Kirby (W.O.), Henry Griffith League, 400 ft. from W line, 41 ft. from S line of tract	Drlg. heaving shale 5,204 ft.
Mills Bennett Prod. Co.'s No. 2-B Gulf fee, Wm. Bloodgood Sur., 1,240 ft. N along N line, 800 ft. E at right angles to W line	Drlg. shale 450 ft.
McAlbert Oil Co.'s No. 5 Wilburn (W.O.), Henry Griffith League	Comp. 1,000 bbls.; ⅝-in. choke, T.D. 5,075 ft.
Sinclair Prairie Oil Co.'s No. 8 Wilburn (W.O.), Henry Griffith League	T.D. 5,271 ft.; sidetracked at 3,075 ft. and drlg. new hole 3,157 ft.
Sinclair Prairie Oil Co.'s No. 15 Wilburn, Henry Griffith League, 150 ft. W of No. 14	Derrick.
Sun Oil Co.'s No. 11 J. Wilburn (W.O.), Wm. Hodges Sur.	Drlg. shale and sand 4,875 ft.
Sun Oil Co.'s No. 12 Wilburn (W.O.), Wm. Hodges Sur.	T.D. 5,127 ft.; P.B. to 4,653 ft.; sidetracking 4,958 ft.
Sun Oil Co.'s No. 17 Wilburn, Henry Griffith League, 150 ft. W of No. 6 and 50 ft. S of N line	Derrick.
Texas Co.'s No. 7 Wilburn (W.O.), Henry Griffith League	T.D. 4,422 ft.; sidetracking bit.
Texas Gulf Prod. Co.'s No. 11-B Kirby, Henry Griffith League, 411 ft. from S line, 473 ft. from W line of tract	Drlg. sandy shale 4,377 ft.
Yount Lee Oil Co.'s No. 21 Chambers County (W.O.), Wm. Bloodgood Sur.	Drlg. salt 2,691 ft.
Yount Lee Oil Co.'s No. 22 Chambers County, Wm. Bloodgood Sur., 200 ft. from W line, 262¼ ft. from N line of lease	Drlg. salt 3,561 ft.

RABBS RIDGE—FORT BEND COUNTY

Gulf Prod. Co.'s No. 5-A Gubbels, Samuel Kennedy Sur., 492 ft. from W line, 1,460 ft. from S line	W.O.C. 5,364 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 18-A F. I. Booth, J. Rabb Sur.	Drlg. shale 4,365 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 10 T. R. Booth, J. Rabb Sur.	Comp. 51 bbls. per hour; ⅝-in. choke; T.D. 5,394 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 14-A Lockwood, J. Rabb Sur., 150 ft. due E of No. 14	Drlg. shale 4,812 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 21-A Lockwood & Sharp, J. Rabb Sur., 696 ft. N of No. 20	Drlg. shale 4,550 ft.
Humble O. & R. Co.'s No. 23 Lockwood & Sharp, J. Rabb Sur., 1,923 ft. E line, 379 ft. N line of tract	W.O.C. 1,014 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 12-B Lockwood & Sharp, J. Rabb Sur., 1,729 ft. from E line, 1,129 ft. from S line of "B" lease	Comp. 58 bbls. per hour; ⅝-in. choke; T.D. 5,299 ft.
Wes-Len Oil Co.'s No. 1 Mays, Samuel Kennedy Sur., 228 ft. from E line, 300 ft. from S line of 14-ac. tract	Sand 5,318-98 ft.; comp. 88 bbls. an hr.; ½-in. choke.

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Livingston Field

The southeast limits of the Livingston Field in Polk County, were definitely established during the week by the completion of a dry hole. The test was J. Z. Werby and others' No. 1 Harwood, in the W. F. Renfro Survey, which found a showing of oil and gas but not sufficient to make a commercial well at a total depth of 4,661 feet, and was abandoned. This test was 7,200 feet south and east from the most southerly well.

Polk County Oil Corp.'s No. 2 Allen and Hilbarger, in the A. Viesca Survey, was completed making 80 bbls. an hour through a quarter-inch choke and later was pinched to seventeen-sixty-fourths inch choke, making 700 bbls. a day from the regular pay sand at a total depth of 4,332 feet.

Shell Petroleum Corp.'s No. 2 Davis-Holmes, A. Viesca Survey, west edge of the field, and 1,050 feet west and a little south of the Schwab discovery gasser, has been swabbing from 5 to 6 bbls. an hour at 4,346 feet, to which depth it was plugged from a total depth of 4,438 feet, where it got salt water. It has been shut down several months, but work was resumed following the recent completion of Dick Schwab's No. 2 Davis-Holmes, an offset.

Skelly Oil Co. is starting a test on its lease of 45 acres southwest of production in the field and if it makes a commercial well it will force three offsets by Shell Petroleum Corp. The Shell offsets will be the No. 1 School Land, No. 2 Oscar Munson and No. 1 Griffin.

Other tests drilling in the Livingston area include Sundby Oil Co.'s No. 1 Grandbury and Smith, W. Shadburn Survey, located about three-quarters of a mile southeast of the discovery well in the field, drilling at 500 feet. Gist Oil Co. and associates' No. 1 Kavanaugh-Collins, A. Viesca Survey, is fishing at 2,212 feet. This test is about one-half mile north of the discovery well.

Polk County

Dick Schwab and others have made location for a wildcat in Polk County, southeast of the Livingston Field. The test is No. 1 Kirby and West, Geraldus Thomas Survey, 1,000 feet north of the north line of the P. A. Sublett Survey and 3,000 feet west of the east line of G. Thomas Survey. This test is about 9 miles from the present production in the Livingston Field. It is being drilled on a block of 1,850 acres recently leased on a geophysical high in the Conroe trend.

A number of other wells have been drilled in the vicinity some of which are reported to have made showings of oil and gas. Cannon Oil Co.'s No. 1 Duke, Peter L. Menard Survey, was drilled about a year ago to a total depth of 5,204 feet and abandoned. It was about 2 miles south and west from the Dick Schwab wildcat. Another wildcat that was drilled southwest of the wildcat was Toner and Purdy's No. 1 Roberts, Joaquin De Rumayor Survey, Polk County, which was abandoned as a dry hole at 5,460 feet.

Jefferson County

Gulf Production Co.'s No. 2 A. Junker, at Fannett, Jefferson County, W. A. Smith Survey, was completed with an

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Large Increase in Locations Shown in California in Anticipation of NRA Code Regulations

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Aug. 28.—There was a slight improvement in the production situation in California during the past week, as the State's output of crude showed a small decline, but the marketing situation showed a further weakening. Marketers are of opinion that the price structure of refined oil will show an early improvement due to enforcement of the oil code and the concerted attempt being made by independent marketers and refiners to stabilize quotations. Despite the improvement in the production situation, California produced in excess of 500,000 bbls. per day during the past week, against an allowable quota of 459,600 bbls. Excess production was due primarily to overproduction in the Huntington Beach, Long Beach and Santa Fe Springs Fields.

In response to a resolution in the last session of the California Assembly, Speaker Walter J. Little has appointed Assemblymen Ted Craig of Brea, C. D. Field of Glendale and E. V. Latham of Alhambra as a special committee to investigate drilling operations in the Seventeenth Street town-lot area of the Huntington Beach Field, particularly with reference to the whipstocking, or artificial deviation, of wells in that area. The committee is expected to present a report to Gov. James Rolph, Jr., on or before November 1 in connection with a recommendation that the State consummate contracts with individual operators providing for the payment of oil royalties to the State. Many wells in the Seventeenth Street town-lot area have been whipstocked or completed out under the tidelands adjoining the municipality of Huntington Beach.

Irrespective of whatever action is taken by state authorities, who appear to be chiefly concerned with the possibility of collecting royalty payments, well-informed oil men anticipate a concerted attempt to outlaw this method of drilling. It is reported that at a recent conference plans were perfected to attack crooked-hole drilling. Litigation may be instituted within 30 days. The action may be predicated as a violation of the trespass law or plain theft, although other factors may be pertinent. Violation of the trespass law would occur when the drill pipe or casing of one operator passed through acreage held by another. Prosecution for violation of the trespass law may be inherently weak, if early railroading activities in California have established sufficient precedent. The correlative rights of operators in a common pool, which has been upheld by the U. S. Supreme Court, may be used as the basis of impending litigation.

New Locations

California operators are still running wild, as far as paper locations for new wells are concerned, and the coming week, just preceding the deadline marking enforcement of the oil code, will probably see another large group of permits for theoretical wells. Oil field operations reported to State Oil and Gas Supervisor R. D. Bush show 74 notices to drill new wells, compared with 37 during the previous week, and an aggregate of 720 for the current year to date, compared with 196 at the same time last year. Of the 74 notices to drill, 26 were for wells in the Huntington Beach Field, 3 in the Montebello Field, 1 in the Playa Del Rey Field, 4 in the Santa Maria Field, 11 in the fields of Kern County, 16 in Fresno County, 3 in Madera County, 9 in Merced County and 1 in Tehama County. Deepening or redrilling jobs have also shown a substantial increase, as the 27 reported during the week brought the total for 1933 to 603, compared with 365 at the same date last year. Actual drilling operations, compared with the theoretical paper locations filed with the Division of Oil and Gas, are running somewhat higher than last year, but are substantially below the ratio established by the notices filed with the state oil and gas supervisor, which would indicate over three times the amount of work.

Huntington Beach

Not a single completion was added in the Huntington Beach Field during the week, but this is only a temporary lull and does not indicate any cessation in development work or failure to secure commercial production. There is more drilling under way in Huntington Beach than at any time up to the present. In addition to redrilling jobs in former producing wells, operators are rigging up 10 new wells. New wells are being started by E. K. Allison, American Petroleum Co., Beloil Corp., Minnesota Oil Co., A. J. O'Dell, Olympic Refining Co., Rosemere Oil Co., Sierra Huntington Oil Co. and the Windsor Oil Co. Speik Oil Co. is rigging up rotary drilling equipment in No. 4 Huntington and is building rig for No. 5 Huntington.

Several potential producers are expected to be finished in the Seventeenth Street town-lot area within 15 days. These projected completions include Camroo Oil Co.'s No. 1, Termo Corp.'s No. 4 fee, Wilshire's No. 19 Huntington, Richards & Rowans' No. 2 Severns, Simaroo Oil Co.'s No. 2 Morris, Smith & Dea's No. 1 Smith and No. 64-B and No. 17 Pacific Electric of the Standard Oil Co. Vaqueros Major Oil Co., following successful litigation involving tideland property adjoining the Bolsa Chica Gun Club property, has started preparations to extend its tideland drilling pier. Vaqueros Major made a technical spud more than a year ago, but was obliged to suspend drilling operations due to litigation. It is the intention to extend the pier 100 feet out into the ocean and drill a deep test. Developments during the past few days tend to complicate the status of this tideland lease, as H. W. Keller, real estate operator and former president of the Bolsa Chica Gun Club, is reported to have purchased the lease in question. Irrespective of whether Mr. Keller purchased the tideland lease for the Standard Oil Co., the status of the lease is of particular interest in view of the suit which the State is contemplating to prevent the draining of state tideland property without the payment of royalties.

Richfield

Drilling operations in the Richfield district of Los Angeles Basin showed a slight increase due to the erection of rigs or the installation of rotary drilling equipment by the St. Helens Petroleum, Morley & Jefferson, Standel Oil Co., Aillied Petroleum Corp. and Otis Hoyt. Chanslor-Canfield Midway Oil Co. completed No. 2 Richfield, a former upper zone producer, after redrilling and deepening the hole to the Breen zone at 3,713 feet. This well, finished with a 5¾-inch combination string, including 65 feet of perforated and cemented through perforations at 3,643 feet, was returned to production flowing 310 bbls. of 25.6 gravity oil and 1,240,000 feet of gas. Several other potential producers are nearing the pay in the Richfield district. Otis Hoyt has just cemented a string of 8⅝-inch as a water string in No. 16 Richfield at 3,790 feet, and J. O. Seeple is making preparations to make a production test on his No. 3 from 3,724 feet, following the landing of a 5¾-inch combination string cemented through perforations at 3,638 feet.

Montebello

Universal Consolidated killed No. 1 Cruz, a deep test that was given a production test in the Montebello Field a week or so ago, and has recemented the 8⅝-inch water string at 6,954 feet. The recement job was undertaken when a water-witch indicated the possibility water was entering the hole from above the shoe. The well is expected to be drilled out within a few days and Universal is expected to undertake additional development in Montebello shortly. The company has already taken out drilling permits covering No. 1 Alvitre, No. 2 Cruz and No. 1 Repetto, This work depends upon the outcome of the company's initial test, however, and will reflect a satisfactory completion in the company's initial test on the Cruz lease, bottomed at 7,010 feet. Standard Oil Co. has started preparations to drill No. 72 Baldwin, but it is not expected to be carried down to the Breen zone. This is the first well to be drilled in the older section of the Montebello Field in more than a year. The Standard, faced with the possibility of being obliged to undertake competitive drilling at a certain point in the Montebello Field, is expected to contest the right of M. K. Nance to exploit a 3,200-foot shoestring strip located between the company's Temple and Baldwin leases in the Montebello Field. This shoestring strip was originally laid out as a private road but was never dedicated as a highway and may make it necessary for the Standard to drill two offsets for each well drilled on this irregular piece of acreage. Operators in the Montebello Field are marking time awaiting the outcome of work on the Universal's deep test. If this well is completed as a commercial producer, drilling operations are expected to show a substantial increase. Standard Oil Co. discovered the Montebello Field in January, 1917, when No. 1 Baldwin was brought in doing 360 bbls. per day of 23.1 gravity oil from 2,395 feet.

Dominguez

Shell Oil Co. added a new well in the Dominguez Field of Los Angeles Basin early in the week and Union Oil Co. is expected to finish another potential producer within 10 days. The former's new well was No. 45 Reyes, bottomed at 4,427 feet with a 4¾-inch liner carrying 275 feet of perforated and completed flowing 688 bbls. of clean 29.1 gravity oil and 1,130,000 feet of gas. Two new wells are being started in the Dominguez Field, Shell and the Union building rigs for No. 47 Reyes and No. 23 Hellman. Sunrise Petroleum is rotating at 4,470 feet in an outpost in the southern part of the field on a lease originally developed by Marland Oil Co., but subsequently quitclaimed because of edgewater.

Union Oil Co. has started rig construction for No. 6 Farwell in the Santa Fe Springs Field and drilling is expected to start within 15 days. This is the first new well in the Santa Fe Springs Field in a long time. Its starting does not indicate possibility of deep drilling in this field for the present, but merely takes the place of an undrilled location in the center of the Farwell lease. In the Playa Del Rey Field, Union is drilling No. 4 Vidor, a new well at 1,950 feet, and Ohio Oil Co. is building road to the location selected for No. 13 Recreation, which will be drilled 270 feet south and 960 feet west of NE cor. Section 28-2-15. Plymouth Oil Co. is expected to spud in No. 1 McNally, in the West Coyote Field, within a few days, and the outcome will be watched with interest due to a deep dry hole drilled on this lease a few years ago by the Petroleum Securities. Plymouth's location is very close to the property line and may show at least edge pro-

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	August 12		August 5			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	78,085	.....
Fuel oil	.....	.....	.....	.....	805,661	.....
Diesel and gas oil	115,495	16,499	.....	.....	1,200,559	324,883
Gasoline	522,029	74,576	.....	.....	6,370,482	5,388,902
Kerosene	5,925	846	.....	.....	508,895	154,372
Foreign exports—						
Crude oil	53,379	7,626	88,460	12,637	4,331,131	5,164,866
Fuel oil	162,981	23,283	358,272	51,182	4,925,413	5,394,384
Diesel and gas oil	39,070	5,581	71,215	10,174	2,222,548	1,495,546
Gasoline	217,679	31,097	92,983	13,283	3,799,186	5,555,458
Kerosene	71,826	10,261	13,873	1,982	1,176,647	1,768,998
Naphtha distillates	.....	.....	.....	.....	.....	120,075
Coastwise-domestic—						
Crude oil	241,770	34,539	127,141	18,163	5,097,639	9,109,382
Fuel oil	342,965	48,995	99,000	14,143	6,254,252	7,562,762
Diesel and gas oil	4,111	587	27,804	3,972	804,505	786,285
Gasoline	305,988	43,713	131,009	18,716	7,891,282	9,836,417
Kerosene	.....	.....	4,338	620	119,586	102,396
Naphtha distillates	.....	.....	.....	.....	27,651	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	280,531	322,636
Gasoline	.....	.....	51,925	7,418	702,977	578,391
Kerosene	.....	.....	.....	.....	482,430	.....
Lubricants	.....	.....	.....	.....	24,366	23,829
Foreign exports—						
Crude oil	.....	.....	77,520	11,074	1,224,818	707,651
Fuel oil	.....	.....	44,175	6,311	466,775	644,719
Diesel and gas oil	.....	.....	5,105	729	639,898	519,332
Gasoline	.....	.....	68,571	9,796	2,759,094	2,367,717
Kerosene	.....	.....	7,384	1,055	578,878	744,020
Lubricants	.....	.....	.....	.....	35,902	24,934
Coastwise-domestic—						
Fuel oil	.....	.....	87,732	12,533	2,077,838	1,872,055
Diesel and gas oil	13,088	1,880	.....	.....	179,250	238,094
Gasoline	139,983	19,998	231,876	33,125	2,629,228	2,391,138
Kerosene	4,309	616	.....	.....	82,555	80,467
Lubricants	.....	.....	.....	.....	2,751	.....

XUM

duction. Standard's No. 113 Murphy Coyote, finished a week or 10 days ago, is still showing a rather high cut, although the output has increased from 802 bbls. to 1,345 bbls. per day. Standard is expected to complete No. 53 Emery, another new well, within a few days.

Mountain View

Dana Hogan, discoverer of the Mountain View Field of Kern County, is expected to begin drilling operations in No. 2 Wharton within a day or so, as rotary drilling equipment is being rigged up. Dana Hogan, or more rightly the Hogan Petroleum Co. due to recent incorporation, has temporarily suspended drilling on No. 1 Ladd in the Guijarral Hills, but will probably resume work following completion of No. 2 Wharton in Mountain View. The crew and equipment has been moved to the Mountain View Field. Shell, which is drilling a direct offset to Hogan Petroleum Co.'s discovery well, No. 1 Wharton, should finish No. 2 Porter Day within 30 days, as it has less than 700 feet to go before completion. Mohawk Petroleum, which has already drilled one dry hole in Mountain View, is rotating in No. 2 Hood at 3,000 feet and has started rig construction for No. 1 Clendennen. Bankline and Barnsdall are drilling in No. 1 Symons and No. 1 Mott at 4,550 feet and 4,402 feet, respectively. Shell has indicated its intention of starting four new wells in Mountain View by taking out drilling permits for Nos. 7 and 8 on the Porter Day lease and Nos. 1 and 2 on the San Joaquin property, but it is not likely all four will be started simultaneously.

Union Oil Co. has leased 1,289 acres in the Union Avenue district of Kern County and may drill a wildcat. Union's latest acquisition covers 640 acres in Section 15-30-28 and substantial parts of Sections 9, 16, 21, 10 and 22 in Township 30, Range 28. In addition, Union had previously leased 560 acres from the S. P. Wibble estate in Section 23-30-28, and has a total of 1,849 acres at a strategic interval. The Fruitvale, Union Avenue and Mountain View Fields appear to be located at regular intervals along the Bear Mountain fault zone. Fruitvale and Mountain View have been found productive and in view of showings encountered by the Western Gulf a few years ago, the Union Avenue area, about midway between Fruitvale and Mountain View, looks like a good bet. L. L. White and associates erected a rig in the Mountain View Field in Section 6-30-28, but the rig was never completed. In the Comanche Point area, at the extreme eastern end of the Bear Mountain fault zone, Comanche Oil Co. erected a rig some time ago in Section 15-32-29, but has not yet installed drilling equipment.

Kettleman Hills

Union Oil Co. has joined forces with the North Kettleman Oil & Gas Co. to facilitate completion of drilling operations on the latter's No. 1 Lillis-Welsh, the deep test in the extreme western part of the Kettleman North Dome Field. For a consideration of $100,000 and certain stipulations, Union acquires a 50 per cent interest in the Lillis-Welsh lease, on which one well has been carried to a depth of 10,942. The $100,000 advanced to Ed McAdams, president of the North Kettleman Oil & Gas Co., is to be used in the completion of No. 1 Lillis-Welsh, which previous to mechanical trouble showed unusual promise of resulting in commercial production in the Eocene. Union has assisted Mr. McAdams from time to time, as completion of a commercial producer will be beneficial to the Union, not only as far as the Lillis-Welsh lease is concerned, but also because the company has 480 acres which would be partially proven as productive in Section 20-21-17. Several new wells are scheduled to be started in the Kettleman North Dome Field as the Standard has foundations in for two new wells and the Kettleman North Dome Association is contemplating drilling two in the Huffman area.

General Petroleum is cleaning out No. 1 Berry, a deep test in the South Belridge Field of Kern County, preparatory to a resumption of drilling at 8,260 feet. This well was still in the brown shale when drilling operations were concluded more than a year ago, but the development of Eocene production in the North Belridge Field warrants resumption on the General Petroleum's test. The Miocene and Eocene should be considerably deeper in the South Belridge Field and consequently the 8,260 feet of hole recorded in No. 1 Berry is of minor consequence as far as the potentiality of the well is concerned. In the Lost Hills district, Associated Oil Co. has passed the 5,300-foot level in No. 1 Williamson, a deep test which the company is drilling in conjunction with the Richfield Oil Co., and while several minor showings have been logged from time to time, formation tests have proven negative due to the presence of water.

Shell Oil Co. has completed No. 7 Vedder, a new well in the Mount Poso Field of Kern County, pumping 498 bbls. of relatively clean 19.1 gravity oil per day from 1,850 feet. Bern Oil Co. and Ekoh Oil Co. are each drilling one potential producer in the Mount Poso Field. Golden Bear Oil Co. topped the oil sand in No. 1 Rex in the Round Mountain Field at 1,710 feet and this well should be given a production test within 10 days. Barnsdall Oil Co. has tentatively agreed to finance the drilling of a new well on a block of acreage west of Lost Hills, but final decision has been held in abeyance pending completion of geophysical exploration. Barnsdall has an option on several hundred acres originally held by Lincoln Petroleum Co., but the exercise of this option depends upon the outcome of the geological survey.

San Miguelito

Continental Oil Co. killed No. 2 Grubb in the San Miguelito Field a few days ago and subsequently ran a water-witch. This test indicated the water shut-off on the 7-inch landed at 7,298 feet was ineffective and the company recemented the water string. This well was originally finished in the middle of August but showed a water cut approximating 40 per cent. Officials of the Continental are of the opinion the water is due to a mechanical condition which can be remedied. In the Ventura Avenue Field, General Petroleum has landed and cemented a 6⅝-inch combination string, including 1,004 feet of perforated at 9,000 feet and will probably conduct a production test within 10 days. Just previous to landing the 6⅝-inch casing the company landed a string of 9⅝-inch at 7,070 feet. General Petroleum has cored No. 15-A Barnard practically every foot since passing the 6,000-foot level and should have a fairly accurate log of subsurface conditions in the vicinity. If No. 15-A Barnard is completed as a substantial producer, and all indications point in this direction, the company is expected to redrill and deepen another well on the Barnard lease. Several other wells in the Ventura Avenue Field are drilling in oil sand, but due to the enormous thickness of oil-bearing formation in this field it is hazardous to venture an opinion as to just how soon a well may be completed. This is particularly true of wells below the 6,000-foot level because neither Associated nor Shell would pass up a commercial producer in the upper sands even though it were originally scheduled for completion in the lower zone.

Elwood

There was no particular change in the status of wells in the Elwood Field of Santa Barbara County, with the exception of the progress made by Honolulu Consolidated in construction of a new rig for No. 6 on tideland permit No. 90 and the additional footage by Barnsdall and Rio Grande in No. 8 Doty and No. 9-A on state tideland permit No. 88. Operators in the Elwood Field have definitely decided to exploit the oil sand in the Sespe formation which underlies the present productive Vaqueros and the production of this field should be somewhat higher during the latter part of September. Pacific Western has staked a location on tideland permit No. 92, but rig material has not yet been assembled. Caroline Spalding, who has a working agreement with Pacific Western Oil Co., contemplates drilling an eighth well on state tideland permit No. 93, but has not yet started construction. Interest of the old Summerland Field of Santa Barbara County has been revived by the announcement of Lincoln Petroleum it intends to redrill and deepen No. 3 Williams in search of Sespe production. The Summerland Field, one of the oldest producing areas in the State, experienced a revival of drilling about two years ago, but interest subsided due to the fact that deep drilling was only productive of small wells. Sespe exploitations in the Summerland Field is not expected to cause any unusual increase in state production as the outlook for substantial production does not appear any too promising.

TO SERVE FARM COMMUNITIES

Gas Fuel Service Co., operating in the San Joaquin Valley, has received permission from the California Railroad Commission to construct a natural gas line and install service in agricultural communities in Kings and Fresno Counties. The company is affiliated with Kettleman Lakeview Oil & Gas Co., which is beginning construction of 25 miles of 4-inch high pressure gas line to serve the in Tulare Lake area from the Dudley Ridge district. Future plans call for the laying of some 400 miles of line of varying diameters in Kings and Fresno Counties, the route taking it north from Kettleman Hills along the west side of Fresno County north to Mendota and Firebaugh. C. C. Friend is president and J. H. Fiske is vice president and secretary.

E. R. KELLAM DIES

Edward R. Kellam, president of the Diamond Oil Co. of Los Angeles, Calif., for 35 years, passed away in Los Angeles a few days ago.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2- 2-15	6,550	hd. sh. drilling
Kupfer, A. M., No. 1 Inglewood, Los Angeles Co.	17- 2-14	5,863	suspended
Pacific Gulf, No. 1 Athens, Los Angeles Co.	19- 3-13	6,094	suspended
Pacific Dev. Co., No. 1 Wilmington, Los Angeles Co.	16- 3-13	rig	suspended
Pacific Oil Inv. Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	3,640	cleaning out
Sunrise Pet. Co., No. 1 Domingues, Los Angeles Co.	3- 4-13	4,468	hd. sd. drilling
Oakes & Mead, No. 1 Lyndwood, Los Angeles Co.	31- 2-12	4,940	redrilling
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	5,281	cleaning out
Universal Consd., No. 1 Montebello, Los Angeles Co.	5- 2-11	7,013	wet
Andrus & Hutcheson, No. 1 El Monte, Los Angeles Co.	11- 1-11	1,792	suspended
Signal Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	4,903	plug 3,700 ft.
Willetts Pet., No. 1 Saugus, Los Angeles Co.	25- 5-16	2,074	suspended
Alpha Oil Co., No. 1 Calabasas, Los Angeles Co.	22- 1-18	1,199	suspended
Ball, W. T., No. 1 Newhall, Los Angeles Co.	34- 2-16	3,582	suspended
Big Four Oil Co., No. 1 Newhall, Los Angeles Co.	32- 4-16	2,230	suspended
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6- 2-16	2,410	reaming
Plymouth Oil Co., No. 1 West Coyote, Los Angeles Co.	24- 3-11	rig	rigged up
Vaqueros Major Oil Co., No. 1 Huntington, Orange Co.	tideland	mtl.	build pier
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	3,901	suspended
Mineral Exploration, No. 1 Capistrano, Orange Co.	8- 8-7	4,302	suspended
Saddleback Oil Co., No. 1 El Tora, Orange Co.	3- 6-7	80	suspended
Placentia Dev. Co., No. 1 Placentia, Orange Co.	31- 3-9	450	cemented
Brown, W. F., No. 1 Atwood, Orange Co.	26- 3-9	rig	rigged up
Spindle Top Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,590	test W80
Great American Pet., No. 1 Chino, San Bernardino Co.	18- 2-8	2,660	fishing
Great American Pet., No. 2 Chino, San Bernardino Co.	18- 2-8	1,270	sd. sh. drilling
McCarthy, C. F., No. 1 Chino, San Bernardino Co.	14- 2-8	803	sd. sh. drilling
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-17-15	680	suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Standard Oil Co., No. 1 Goleta, Santa Barbara Co.	20- 4-28	3,900	hd. sh. drilling
Monterey Expl. Co., No. 1 Pt. Concepcion, S. Barbara Co.	33- 5-33	1,614	hd. sh. drilling
Bolsa Chica, No. 1 Coal Oil Point, Santa Barbara Co.	tideland	4,089	suspended
Meganos Oil Co., No. 1 Purisima, Santa Barbara Co.	28- 8-34	rig	rigged up
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	2,387	suspended
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,292	suspended
Bardeen Pet., No. 1 Fillmore, Ventura Co.	13- 4-19	3,050	sd. sh. drilling
Hancock Oil Co., No. 1 Fillmore, Ventura Co.	13- 4-19	2,271	sd. sh. drilling
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	....	road
Los Cerritos Pet., No. 1 South Mountain, Ventura Co.	17- 3-20	....	build road
Kneiper & Atha, No. 1 Barsdale, Ventura Co.	7- 3-19	316	suspended
Williamson & Donaher, No. 1 Simi, Ventura Co.	36- 3-18	570	hd. sd. drilling
Dabney, H. R., No. 1 Simi, Ventura Co.	22- 2-18	1,000	gr. sd. drilling
Continental, No. 2 Miguelito, Ventura Co.	23- 3-24	7,926	564 B/D
C. C. M. O., No. 3-A Miguelito, Ventura Co.	23- 3-24	4,166	suspended
Midlands Pet., No. 1 Ojai, Ventura Co.	9- 3-23	7,841	redrilling
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	20- 4-21	2,198	suspended
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21- 4-21	325	sd. sh. drilling
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	1,470	br. sh. drilling
Las Posas Pet., No. 1 Los Posas, Ventura Co.	22- 3-20	4,560	br. sh. drilling
International Oil Developers, No. 1 Conejo, Ventura Co.	33- 2-20	2,800	hd. sd. drilling
Hub Pet. Co., No. 1 Gould Hills, Kern Co.	22-29-21	6,840	suspended
Purman, T. H., No. 2 Gould Hills, Kern Co.	27-29-21	335	suspended
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	4,160	br. sh. drilling
General Pet., No. 1 Belridge, Kern Co.	30-28-21	8,260	cleaning out
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	3,270	suspended
Holloway, A. S., No. 1 Devils Den, Kern Co.	11-25-18	1,848	suspended
Lincoln Pet., No. 1 Devils Den, Kern Co.	10-25-18	2,104	cleaning out
Hanna, Tom, No. 1 Devils Den, Kern Co.	25-25-18	3,516	suspended
Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co.	24-25-18	4,140	fishing
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19	3,170	suspended
Associated, No. 1 Lost Hills, Kern Co.	2-26-20	5,380	gr. sd. drilling
Howells Bros., No. 1 Round Mountain, Kern Co.	32-28-29	940	hd. sh. drilling
Keno Pet. Co., No. 1 Lerdo, Kern Co.	14-29-27	4,531	rebuild rig
Seale, Fred, No. 1 Edison, Kern Co.	5-30-29	....	location
Caravel Pet. Co., No. 1 Edison, Kern Co.	19-30-30	1,801	suspended
White, L. L., No. 1 Union Avenue, Kern Co.	6-30-28	mtl.	foundation
Shell Oil Co., No. 2 Mountain View, Kern Co.	29-30-29	5,175	O. S. drilling
Hogan, Dana, No. 2 Mountain View, Kern Co.	29-30-29	rig	rigging up
Bankline Oil Co., No. 1 Mountain View, Kern Co.	4-31-29	4,550	br. sh. drilling
Barnsdall Oil Co., No. 1 Mountain View, Kern Co.	31-30-29	4,402	hd. sh. drilling
Long Beach Pet., No. 1 Mountain View, Kern Co.	29-30-29	3,154	sd. sh. drilling
Mohawk Pet., No. 1 Mountain View, Kern Co.	30-30-29	5,958	suspended
Mohawk Pet., No. 2 Mountain View, Kern Co.	30-30-29	3,000	sd. sh. drilling
Mohawk Pet., No. 3 Mountain View, Kern Co.	30-30-29	mtl.	building rig
Comanche Oil Co., No. 1 Comanche, Kern Co.	15-32-29	rig	suspended
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19	4,315	br. sh. drilling
Catton & Luethe, No. 1 Madera, Madera Co.	22-10-17	2,390	suspended
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	20-12-11	2,191	hd. sh. drilling
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-12-11	4,148	gas showing
Graham & Loftus, No. 1 Raisin City, Fresno Co.	20-15-18	5,906	suspended
Emerich Oil Co., No. 1 Mendota, Fresno Co.	35-13-13	3,840	suspended
Western Gulf, No. 1 S. P., Fresno Co.	3-17-15	4,286	sd. sh. drilling
Hogan, Dana, No. 1 Joaquin Ridge, Fresno Co.	28-20-16	6,605	suspended
Superior Oil Co., No. 1 Jacalitos, Fresno Co.	6-22-16	rig	rigging up
Kent & McDonald, No. 1 Carrizo Plains, S. Luis Obispo Co.	3-32-22	3,830	suspended
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	27-27-11	4,191	suspended
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,197	suspended
Brown, A. M., No. 1 Cloud, Kings Co.	10-23-19	1,205	suspended
Brown, A. M., No. 2 Cloud, Kings Co.	10-23-19	820	suspended
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	6,873	suspended
Magee & Stone, No. 2 Alpaugh, Kings Co.	33-24-22	3,149	suspended
Cardinal Oil Co., No. 1 Los Banos, Merced Co.	26-10-9	rig	rigged up
Merced Oil & Gas, No. 1 Chowchilla, Merced Co.	2- 9-16	rig	suspended
Na-Pa Oil Co., No. 1 Griffith, Napa Co.	7- 8-3	3,742	br. sh. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5- 2-10	4,815	hd. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo County	23-12-3	4,500	gr. sd. drilling
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-16-1	2,721	gas—shut in
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	34-16-1	3,226	fishing
Tehama Pet. Co., Well No. 1, Glenn Co.	4-22-5	4,696	to set pipe
Orland Synd., No. 1 Orland, Tehama Co.	31-23-3	3,748	suspended
Marker Drlg. Co., No. 1 Orland, Tehama Co.	21-25-5	3,030	suspended

Hobbs Operators to Revise Proration Program; Plan Deep Test at Allen Lake, Wyoming

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Aug. 28.—The State of New Mexico has awarded a contract for the plugging of 40 water wells in the Pecos Valley. Hobbs allowable outlet remained unchanged for the last half of August. Operators in that pool will meet shortly to adopt a code and revise the proration agreement. San Juan County is showing an increase in activity with eight wells reporting progress.

Colorado imposed another tax on automobiles, but will spend $36,000,000 building highways, which will use considerable road oil. The Buckingham district is to have another test by the Ramsey Petroleum Corp. near its gasser. Operators in the Rocky Mountain area are hopeful that the oil code will give this district higher crude prices due to the gasoline differential of 2 cents. The Ohio Oil Co. abandoned its No. 1 Butters in the Greasewood Field. Moffat County deep test is being drilled in. One new operation was reported in Routt County and another in Las Animas County.

In Wyoming the Ohio Oil Co. will drill a deep test at Allen Lake. One new operation was reported in Uinta County and a small well was completed in Natrona County.

One 50-bbl. well was completed in the Cut Bank Field in Montana. One small producer and three dry holes were completed in the Kevin-Sunburst Field.

Nebraska had one failure.

NEW MEXICO

Lea County

The allowable outlet for the Hobbs Pool for the last half of August remained unchanged at 33,532 bbls. daily. The operators in the Hobbs Field will have a meeting at Santa Fe on a date to be named shortly to discuss proposed changes in the proration agreement and to perfect their code under which to operate the field. There are no wells drilling in the pool at this time.

In the Lea area the Texas Co.'s No. 3-A Lynch, C NW NE Section 34-20-34, was treated the second time with 300 gallons of concentrated muriatic acid and is running the 2½-inch tubing to test. The well doubled its production following the first treatment with 200 gallons. Cranfill & Reynolds' No. 4 State, C Lot 10, Section 2-21-33, is drilling at 1,925 feet in salt.

In the South Eunice area, the Carter and Continental Oil Co.'s No. 1 State, C NE NE Section 28-22-35, is drilling at 3,498 feet in anhydrite.

In the Jal area, the Western-Anton's No. 1 Conditt, C SW SW Section 12-25-36, is drilling at 1,500 feet in anhydrite, and the Continental Oil Co.'s No. 2 McCallister A-24, NW NE NE Section 24-26-36, is shut down in sandy lime at 503 feet to run the 12½-inch.

Eddy County

Ralph Spearow and others' No. 1 McClellan, SW NW NE Section 22-22-23, Indian Creek district, is drilling at 3,647 feet in gray sandy lime. The Western Drilling Co.'s No. 2-A Green, C SW NE Section 29-17-29, Jackson area, is shut down at 2,336 feet, and Flynn, Welch & Yates' No. 66 State, NW SE SE Section 30-18-28, is shut down fishing for bit at 1,785 feet. It is bottomed in gypsum and anhydrite.

San Juan County

R. C. Oswell's No. 4 Government, SW NW NW Section 34-30-11w, Aztec district, began spudding August 5. The Gobernador Oil Co.'s No. 1 Likens, SW NE SW Section 12-29-9w, Blanco district, is reported to have had a show of oil at 2,280 feet, followed by a flow of gas, estimated at 200,000 feet per day, in a bed of coal. It topped the Picture Cliff at 2,300 feet and is drilling at 2,335 feet in a 3-inch hole. The Rio Grande Development Co.'s No. 2 Lanier, SE cor. NW Section 9-19-11, is shut down at 1,865 feet for pipe. Parted joints of the 6⅝-inch were connected up and hole is in good shape. Sanford S. Bashaw's No. 1 Stallings, Section 1-20-16w, is drilling at 510 feet, and McCoy & Phillips' No. 1 Martin, NE SE NW Section 34-30-11w, is spudding. Meier & Culberson's No. 1, S half NE Section 32-30-11w, spudded August 7, and is drilling at 160 feet. Fred Barrett's No. 1 Hart, SW NW SW Section 11-29-11, is underreaming to bottom at 1,360 feet, and the Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor. Section 20-28-10, Kutz Canon district, is making slow progress at 4,130 feet due to cavey ground.

McKinley County

The Ambrosia Dome Association (Julius Beck and others), who last June were reported to have acquired at a sheriff's sale the well and holdings of Miss S. Dysart and others, are now reported to have crew on the ground to resume with Frank A. Weber in charge. The operation, No. 2 Bouton, NW NE Section 14-14n-10w, Ambrosia Lake district, has been shut down for two years at 1,285 feet.

COLORADO

Weld County

Another deep test for oil is to be drilled at once in the Buckingham district in northeastern Colorado. The Ramsey Petroleum Corp. this week released a location for its No. 1 George Scriven, C NW Section 22-7n-59, and materials are being moved in. The location is three-fourths of a mile to the southwest of the same company's No. 1 St. Anthony, SW NE SE Section 15-7n-69, which was completed last spring in the Muddy at 6,680-6,711 feet as a gas well. Manning & Terry have the contract and steel derrick from the Johnson-Juhl well in the Greasewood Pool will be used. W. R. Ramsey, president; R. M. Franks, vice president, and C. L. Wagner, chief geologist, were here the past week in connection with the plans. In the No. 1 Tighe, the Dakota showed oil in the top, but it was drowned out by water upon drilling deeper.

It is expected that another test farther to the northwest will be drilled jointly by a group of major companies this fall, but negotiations have not been completed and no location released. Since the recent drilling in that territory was completed, the major companies have had a lot of work done with the seismograph.

Colorado, and in fact all the Rocky Mountain states, are believed to be in a favorable position for a wildcatting campaign when the oil code is finally in effect. Neither Colorado nor Montana produce as much oil as these States consume and it is not considered likely that there will be any serious restrictions on wildcatting. Also, there are some who believe that the code will give the Rocky Mountain district better prices for crude oil. Gasoline prices out here are based on points of delivery and not at the refinery as in the Mid-Continent. Tank wagon prices of gasoline take a 2-cent differential and if that measure should be adopted, the price of crude oil, under the 18.5-times scale, would range considerably higher than in the Mid-Continent. Another factor favorable to this region is that Secretary Wilbur's order early in 1928 stopped extensive wildcatting on the public domain and these restrictions are no longer in effect except as decided in individual cases.

Morgan County

The Ohio Oil Co.'s No. 1 Butters, C SW SW Section 7-6n-60, on the northeastern side of the Greasewood Pool, which has been allowed to produce for several months to see what it would do, has been abandoned. It produced 30 bbls. initial from the Muddy at 6,685-90 feet when completed last fall. Lately it has been averaging around 8 bbls. per day.

Moffat County

There is considerable excitement in northwestern Colorado over the prospects for the Mountain Fuel Supply Co.'s No. 2 Florence Wilson, C NE NE Section 22-12n-100, the deep test on Hiawatha Dome, which is reported drilling in. Total depth is 5,063 feet. The 8⅝-inch was cemented at 4,964 feet. It is supposed to have cored more than 50 feet of sand in the upper part of the Mesa Verde before it was decided to stop and make a test. The core showed good gas saturation and there is a possibility of it being an oil well. The same company's No. 1 Wheeler, SE NW NW Section 30-12-100, is standing with the 10¾-inch cemented at 1,035 feet. The Texas Co.'s No. 1 Van Schaick, SW cor. Section 19-12-100, is rigging up. Contract was let to F. F. Carpenter.

The Mountain Fuel Supply Co.'s No. 1 Hatch, SE NW SW Section 9-11-101, Sugarload district, is bottomed at 3,519 feet and waiting for heavier rotary equipment to go deeper.

The Texas Co.'s No. 1 Iles Investment, SE NW Section 23-4n-92, Iles Dome, plugged back from 2,050 feet to 1,070 feet to straighten hole and is redrilling at 1,135 feet.

The Rocky Mountain Gas Co.'s No. 1 Eberle, SE SW SW Section 9-6n-91, Craig Dome, is drilling into the sand which yielded gas in No. 1 Bogenschult, 1,500 feet to the east. Total depth is 2,830 feet and the 8⅝-inch is cemented at 2,768 feet.

William A. Myers and others' No. 1 State, NW SW SW Section 16-4n-101, Skull Creek, has pulled the 6¼-inch, recovered lost spear and is reaming to bottom at 3,250 feet.

Routt County

The Western Colorado Oil Corp.'s No. 1 Rapson, SW NW SE Section 31-7n-86, Tow Creek, is shut down before spudding and no activity is reported. The Ute Oil & Gas Co.'s No. 3 State, NE SE NE Section 16-6n-86, is a derrick. Last named recently took over the Hynds Oil Co.'s No. 2 State, NW SW Section 17-6n-86, which was completed at 3,310 feet in 1929 for 27 bbls. initial and subsequently abandoned, is redrilling past old casing at 2,000 feet, to which depth the 6¼-inch has been run. It will go to around 2,300 feet, where it originally had a good show of oil which was cased off.

Rio Blanco County

The California Co.'s No. 1 California-Raven, C NW SE Section 30-2n-102, Rangely Dome, is reported pumping an average of 138 bbls. daily from lime at 5,800 to 6,200 feet. Bookhold and others' No. 1 Government, SW cor. Section 11-1n-102, is shut down at 100 feet.

Fremont County

Cherry Creek Placer Co.'s No. 1 Lucas, SW cor. NE Section 32-18-69, Florence district, is drilling at 2,650 feet in blue shale and probably will go another 100 feet before quitting.

Las Animas County

The Mountain States Gasoline Corp.'s No. 1 Nikola, C NE SE Section 10-34-62, Garcia Dome, is moving in tools.

Park County

The South Park Oil Co.'s No. 1 Milligan, NE cor. SE Section 13-8s-76, Jefferson district, landed the 4¾-inch at 3,040 feet, dried up the hole and is drilling at 3,045 feet.

Boulder County

The Consolidated Smelting & Metals Co.'s No. 1 Blubaugh, SE cor. Section 20-3n-70, Lyons district, encountered more water in the Lakota at 910 feet and will continue on to the Sundance.

Prowers County

The Shastatex Oil & Gas Co.'s No. 1 Lotus, NW NE NE Section 15-23-46, Lamar district, is drilling at 2,360 feet in red shale, in the lower members of the Permian and in a horizon which may be favorable for finding shallow production.

WYOMING

Carbon County

The Ohio Oil Co. has made a location and is moving in materials for a deep test on the Allen Lake structure in its No. 2 A. J. Hazlett, NE NE Section 34-23-79. It will go to the Sundance and probably to the Pennsylvanian. Same company's No. 1 Kanawha, SW NW NE Section 34-23-79, cemented off water in the Morrison with the 4¾-inch at 1,742 feet. The company is laying a 5-mile 3-inch line from No. 1 Hazlett to Medicine Bow to supply that town with gas.

Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, set the 10-inch at 2,100 feet. First Wall Creek is expected at around 2,300 feet.

Mutual Oil Syndicate's No. 5 Dutton Creek, NE NW SE Section 12-18-78, Dutton Creek, is drilling at 1,100 feet, and its No. 9 Dutton Creek, NW NE Section 12-18-78, which will go to the Dakota, is drilling at 4,100 feet.

Sweetwater County

The Mountain Fuel Supply Co.'s No. 3 Poston, C NW NW Section 22-16-104, South Baxter Basin, is drilling at 1,760 feet.

Uinta County

Sackrider & Spaulding's No. 1 Union Pacific, C NW NE Section 28-15-117, Meridian district, is drilling at 820 feet in shale.

Park County

The Resolute Oil Co.'s No. 1 State, C NW SW Section 16-57-101, Badger Basin, is drilling at 1,174 feet, corrected depth. The 13⅜-inch was cemented at 269 feet with 238 sacks. It will go to 8,700 feet, or more.

Hot Springs County

The Empire State Oil Co.'s No. 4 Re-

XUM

public, NE cor. NW Section 14-44-98, Hamilton Dome, resumed after landing the 8¼-inch at 1,570 feet to shut off cavey ground and carry.

Big Horn County

B. C. Prescott's No. 1 Government, Lot 2, Section 21-52-93, Greybull district, had water in sand at 865-79 feet and is shut down for 6¼-inch casing.

Washakie County

D. L. McDonald and others' No. 1 Wheeler, SW cor. SE Section 30-48-90, Hidden Dome, is having trouble with bad hole at 1,115 feet, and the Caton Oil Trust's No. 1 Bales, C NE SE Section 30-48-90, set the 10-inch at 100 feet. L. S. Keyes and others' No. 1 Bales, NE SW NW Section 31-48-90, has spudded. The Bales Oil Trust's No. 2 Brome, NE NW NW Section 31-48-90, has recovered lost bit and cased off the Frontier, which had a show of oil. Total depth is 1,631 feet.

Natrona County

The Triangle Oil Co.'s No. 2 Ames, SE SE Section 29-36-85, North Boone Dome, was completed for 2 bbls. in the Shannon sand at 630-70 feet, and is preparing to drill No. 3.

The Midway Oil Corp. has been incorporated by Sidney H. Keoughan, Leslie H. Parker and associates, to take over the Mutual Oil Syndicate's operation on the Midway Dome. It is capitalized for 100,000 shares of $1 par value. The directors are Mr. Keoughan, Mr. Parker and H. H. Hindry. The Mutual Oil Syndicate will own 75 per cent interest and Mr. Parker and associates a 25 per cent interest. Its No. 1 Boyer is waiting for government permission to drill to the Frontier. Its No. 1 well is making better than 100 bbls. per day from the Wall Creek.

Converse County

James A. Brady and others' No. 1 Cashner, SW NE NE Section 17-31-71, Warm Springs, is drilling at 1,185 feet in red shale. The Continental Oil Co.'s No. 30 Glenrock, SW SE SE Section 4-33-76, Big Muddy, has plugged off bottom water in the Sundance at 4,767 feet, total depth, and will test the Lakota at 4,312 feet.

Niobrara County

J. M. Huber Corp.'s No. 2 Argo, NE SE SW Section 27-36-65, Lance Creek, is drilling at 3,600 feet.

Crook County

Dr. B. R. Kinter and others' No. 1 Rockford-Wyoming, NE SE Section 13-52-62, Rocky Ford district, topped a water sand at 177 feet and water rose 150 feet. This test will go to the granite.

MONTANA

Glacier County

One completion was reported in the Cut Bank Field in the Alberta-Pacific Consolidated Oil Co.'s No. 2 Matson, SE NE SW Section 14-34-6w, an offset well, which is estimated at 40 to 50 bbls. per day. Total depth is 2,924 feet and the Darling was cut at 2,889-2,920 feet.

The Alberta-Pacific's No. 2 Kiesel, SE cor. NW Section 11-34-6w, is drilling at 2,700 feet, and A. B. Cobb's No. 1 Walburger, SW cor. SE Section 35-34-6w, is drilling at 1,960 feet. The Dakota-Montana Oil Co.'s No. 2 Haglund, Sr., NE NE Section 14-34-6w, cemented the 10-inch at 650 feet and is waiting.

W. M. Fulton and others' No. 1 Haggerty, NE cor. Section 16-34-6w, which swabbed 106 bbls. initial, was given another shot of 20 quarts and is cleaning out. Total depth is 3,040 feet. J. W. Johnson's No. 1 Ewing, C NE NE Section 3-34-6w, is drilling at 2,010 feet, and the Montana-Headlight Oil Co.'s No. 1 Britton, NW SW NE Section 14-34-6w, cemented the 8⅝-inch at 2,336 feet and is waiting.

The Montana Power Co.'s No. 1 fee, SW cor. Section 1-35-5w, cemented the 10-inch at 2,054 feet and is drilling at 2,475 feet, and its No. 1 Vermont Loan & Trust, Sections 21 and 28-36-5w, is drilling at 2,300 feet. Last named had 1,500,000 feet of gas at 1,715-30 feet and 750,000 feet at 2,270 feet. The Santa Rita Oil & Gas Co.'s No. 1 Cardwell, C NE SE Section 15-35-6w, is drilling at 170 feet.

R. C. Tarrant's No. 2 Britton, SW NW SE Section 14-34-6w, is moving in, and his No. 3 Haglund, Jr., C SE NE Section 13-34-6w, is drilling at 1,800 feet. Tarrant's No. 1 Larson, C SW NE Section 12-34-6w, topped the Colorado at 395 feet and cemented the 10-inch at 505 feet, and his No. 1 Williams, NW cor. NE Section 11-34-6w, cemented the 6⅝-inch at 2,795 feet, but has not yet drilled in.

Texas Co.'s No. 1 Fiske, C NW NE Section 14-35-6w, is bottomed at 2,931 feet. The 7-inch was cemented at 2,926 feet with 72 sacks. Core from 2,929-20 feet showed saturation with an increase at 2,931 feet. It will drill in with cable tools.

The Yukon Oil Co.'s No. 1 Kruger, C SW SW Section 14-37-5w, North Cut Bank, or Stewart Dome, is drilling at 2,175 feet.

Liberty County

The Western Natural Gas Co.'s No. 1 Shaffer, SW cor. SE Section 14-37-4e, Whitlash district, is drilling at 950 feet, and its No. 2 Mahoney, SE cor. NE Section 23-37-4e, is a suspended location.

Musselshell County

The Haweye Oil Co.'s No. 1, NW NE NE Section 20-11n-23, Willow Creek, is drilling at 1,400 feet.

Toole County

In the Kevin-Sunburst Field, Frank Miller's No. 1 State, NW cor. NE Section 36-34-1w, was completed at 1,375 feet for 10 bbls., and A. Beardslee's No. 1, SE NE SE Section 8-35-2w, was dry and abandoned at 1,487 feet. B. G. Horton's No. 6 Abel, NW SW SW Section 29-35-2w, was dry and abandoned at 1,520 feet, and the Majestic Oil Co.'s No. 4 Davis, NE cor. SW Section 27-35-3w, was dry and abandoned at 1,325 feet.

Ke-Sun Oil Co.'s No. 4 Stewart, NE NE Section 26-35-3w, showed a little water at 1,542 feet and probably will be abandoned. The Agen Drilling Co.'s No. 1 Goddertz, NE SW Section 26-35-3w, set the 12½-inch at 55 feet and is drilling at 1,000 feet. Pfabe & Engelking's No. 4, SW SE Section 19-35-2w, is drilling at 1,125 feet in the Kootenai.

NEBRASKA

Art W. Kelly and others' No. 1, C NW NW Section 24-2n-22, Furmess County, was dry and abandoned at 1,440 feet. It topped the Dakota at 965 feet and the Lakota at 1,275 feet.

Activity in Southern Extension Turner Valley Is Feature of the Development in Alberta

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Aug. 26.—In Central Turner Valley New McDougall-Segur Oil Co.'s No. 6, LSD 11, Section 12-20-3w5, is being finished in the McDougall-Segur sand at 3,190 feet. Early tests indicated a flush production around 95 bbls. a day. Some trouble has been experienced with the well waxing up, but following a week's production test the well is reported good for a settled production of 50 bbls. a day, which will be handled in the company's own refining plant in the field.

This is the second test drilled by New McDougall-Segul Oil Co. on its acreage in Section 12-20-3w5 with the shallow crude oil horizon above the lime as a definite objective. New McDougall-Segur's No. 5, LSD 14, completed last year to the same horizon, also yielded a good light crude production. Drilling to this horizon is comparatively inexpensive, a smaller hole and less expensive casing being required, and the Alberta government technical staff has been trying to encourage further development work along this line. In several sections of the Turner Valley the McDougall-Segur, Home and Dalhousie sands above the lime have given good shows of light crude in the deep lime tests but the oil has been shut off in order to deepen the holes to the crude naphtha.

Farther south in the Central Field, Okalta Oils' No. 4, LSD 8, Section 1-20-3w5, originally drilled to the lime and which failed to get satisfactory naphtha production, is redrilling to recover a light crude production encountered in the upper sands. The old hole was found to be crooked, and in straightening considerable trouble has been experienced with caving. At 1,100 feet about 80 feet of caving jammed the tools. The line has been cut and the cave is being drilled with another string. When the fishing job is finished, casing will be carried down behind the tools as a precaution.

Southern Extension Active

A marked feature of the present situation is the decided activity in the southern extension. A new map of the south field, recently issued by George R. Elliott, petroleum geologist, of Black Diamond, Alberta, shows, in the area south of the Mayland wells, a total of 14 producers and 15 new tests drilling or located. The drilling in this section has been working steadily south and east since the Home wells opened the South Turner Valley Field. The earlier producers south of Tongue Creek were those drilled by the Commonwealth, Southern Lowery and Mercury companies, the Mercury tract centering in Section 4-19-2w5. Later, drilling extended into Township 18. This area now includes two Sterling Pacific producers, Merland Oil Co.'s No. 1 and Mar-Jon-Freehold's No. 1. The two latter wells are among the best producers in the entire Turner Valley Field.

The farthest south producer is Mar-Jon-Freehold's No. 1 in Section 28. This test was located on the extreme southern fringe of the area where drilling starts in the Upper Benton. Most of the newer tests in Township 18 started in the overlying Belly River formation. The farthest south test now drilling is Union Drilling Co.'s No. 1, LSD 8, Section 21-18-2w5. South of this location drilling will have to start in the Bearpaw or Edmonton formation. So far no well in Turner Valley has been started above the Belly River formation.

Tests now drilling in the Turner Valley represent an aggregate potential outlay of around $1,500,000 to $2,000,000 on development. Most of the financing is being done by Alberta and British Columbia capital. The greatest drilling activity centers in Section 28-18-2w5. The value of July deliveries to the Calgary refineries from the entire field, at current prices, is estimated around $177,865; in addition to which large quantities of naphtha are sold direct at the well head, the usual price being around 10 cents a gallon or $3.50 a barrel.

How far south the structure will ultimately be proven remains to be seen. Acreage has been leased to the Highwood River and beyond; but active testing in these further south areas will likely depend on results secured in the Hoffar-Lundy and Union Drilling Co. tests.

Oil City Field

In the Waterton Lakes Park area, southern foothills, Oil City Royalties' No. 1, Section 30-1-30w4, is drilling below 800 feet in a soft formation. Seepage oil from the old discovery well drilled in 1903 close to the present location, is reported entering the new well. The discovery well got its main production at a reported depth of 1,020 feet.

Birch Ridge Prospect

It is reported that Calgary and Vancouver capital is interested in a syndicate which will start a test this fall on the Birch Ridge structure. This area is a little east of the Elbow Oils' No. 1 test in LSD 11, Section 35-22-5w5, on the south end of the Moose Mountain structure. The area was reported on last year by Dr. G. S. Hume of the Geological Survey of Canada and includes that portion of the foothills south of the Elbow River starting in Section 2-23-5w5, and extending southeasterly to Section 31-21-4w5. Doctor Hume at that time suggested a location along Whiskey Creek in Section 6-21-4w5, and estimated that, unless faulting is encountered, the drill will get the deep lime around 5,250 feet. The area is reached by rough trails from Priddis and Bragg Creek.

Twin River Test

On the Twin River structure south of Lethbridge, Nordon Corp. and C. A. Roney's No. 2 Twin River, LSD 11, Section 2-2-20w4, is reported installing new equipment in preparation for a definite production test. On August 7, while cleaning out cavings and while still 30 feet off bottom, the bailer stuck in the hole. When the sand line was hitched to the beam in an effort to jar the bailer loose, the line slipped through the clamps and the resulting shower of sparks ignited the large gas flow from the well. The oil soaked rig immediately caught fire which could not be extinguished till it had burned out, including the oil and cribbing in the cellar. The wreckage has now been cleared away, and the rig and damaged machinery are being replaced. A 3,900-foot string of 6-inch casing has been purchased, and as soon as the rig is completed this will be run and cemented at the top of the lime. This will case off the 130 feet of open hole in the Ellis shale which is continually caving and interfering with the proper producing of the well. By September 15 the cement around the 6-inch will probably be set so that the hole can be cleaned out and made ready for the acid treatment. Officials of the Nordon Corp. have not made any estimates of potential production, but are apparently confident that the well will be a good commercial producer, in which case it represents the opening of an important new field. Location is 11 miles north of the new Stewart or North Cut Bank Field in northern Montana.

Comrey Structure

On the Comrey structure in southeastern Alberta, D. A. MacDonald's No. 1, Section 9-1-15w4, has derrick and camp buildings up.

Turner Valley Pressure Tests

Turner Valley operators have been notified by W. Calder, director of the petroleum and natural gas division of the Alberta lands and mine department, that

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Lima and Central West Are Increasing Activity; Only One Completion in Kentucky District

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Aug. 28.—A nice increase in completed work was shown in two divisions of the Central West Field, the Lima and Central Ohio divisions. Kentucky registered only one completion, Indiana failed to report any wells. In the Lima Field of northwestern Ohio, five completions were reported. A large number of old wells were pulled out and abandoned. In the Tiffin Field of Seneca County, Sandusky Gas Co. drilled in a light gas well on the William H. King farm, Section 10, Hopewell Township. In Clinton Township, same county, Tiffin Industrial Gas Co. brought in a light gas well in No. 2 on the Charles S. Yingling farm, Section 6, and W. E. Wilson, trustee, drilled a dry hole in No. 2 on the Isaac Martin farm, Section 33, same township. In Eden Township, same county, D. R. McCray abandoned Nos. 8, 10, 12 and 13 on the J. C. Yeager farm, Section 9. Mrs. L. E. Harpster is drilling No. 3 on the Nicholas Weber farm, Section 34, Liberty Township.

In Wyandot County, Jones & Coyle's No. 4 on the Margaret Brillhardt farm, Section 28, Crane Township, had a reported initial production of 60 bbls. from the Trenton lime from 1,318-53 feet. No. 5, same farm, is drilling. Upper Sandusky Oil & Gas Co.'s No. 4 on the Oscar J. Weiker farm, Section 28, produced an initial of 25 bbls. from 1,326-42 feet. Same company is drilling on the Adolph Veith farm, Section 28, same township. Lang and others are drilling No. 1 on the A. G. Smith farm, Section 9. Saladay and others are drilling No. 1 Mary Huffman farm, Section 33, and Crane Township Oil & Gas Co. is drilling No. 2 on the Delbert Smith farm, same section.

In Sandusky County, Sandusky Township, D. J. Bonawit abandoned No. 1 on the P. C. Swickard farm, Section 9, and Charles W. Putnam abandoned Nos. 1, 2 and 3 on the Earl and Putnam farm, Section 31, same township. In Madison Township, Bauman & Holtzapple abandoned No. 1, 2, 3 and 4 on the Garver farm, Section 33. Gibsonburg Banking Co. abandoned 16 old wells on the W. H. Burns No. 3 farm, Section 34, Woodville Township.

Joseph Casper abandoned two old wells on the A. Cheseborough farm, Section 14, Oregon Township, Lucas County, east of Toledo.

CENTRAL OHIO

The Central Ohio Field had a very good week so far as completions were concerned, the largest number for any week for a number of months, along with an increase in drilling wells and rigs up.

In Lorain County, McMillan and others drilled in an unusually good gas well in No. 3 on the Frank Kovarick farm, in Lot 95, Eaton Township, at a depth of 2,422 feet. Wittmer Oil & Gas Co. has a rig in for No. 1 on the Cleveland Quarries Co.'s property in Section 19, Lagrange Township, same county.

In Medina County, Kolb & McGrath's No. 4 on the L. A. Severcool farm, Lot 4, Chatham Township, produced an initial of 10 bbls. from the Berea at 318 feet. Faulkner & Phelps' No. 4 on the Mary E. Smyser farm, in Lot 26, Chester Township, Wayne County, was dry in the Berea sand from 668-78 feet. John Harpster is shut down on the E. and T. Beichler farm, Section 6, Chippewa Township, same county.

In Licking County, Floyd Golden and others' No. 7 on the George W. Smith heirs' farm, Lots 17 and 18, Perry Township, was a dry hole. Ridgeway Oil Co. made a location for No. 2 on the Bessie F. Hoyt and others' farm, Lot 17, same township. Settles Oil Co.'s No. 5 on the John A. Hughes farm, Lots 2 and 3, Mary Ann Township, produced 2 bbls. from 573-83 feet.

O. K. Oil & Gas Co.'s No. 40 on the D. Ross farm, Lot 4, Chatham Township, Medina County, is reported good for 10 bbls. from the Berea sand.

In Athens County, John Bowman's No. 4 on the Lovell and others farm, Section 24, Berne Township, is a gas well at 885 feet. C. & M. Oil & Gas Co.'s No. 1 on the G. M. Foster farm, Section 8, Troy Township, same county, was dry at 1,820 feet.

In Belmont County, Peterson & Peters' No. 1 well on the Lorain Coal & Dock Co.'s lease, NE Section 20, Kirkwood Township, was dry at 1,900 feet, and Steuben Oil Co.'s No. 1 on the Carroll and Eberts farm, SE Section 27, same township, was dry at 1,930 feet. Robert Morgan and others' No. 1 on the William L. Boyd farm, Section 15, Union Township, same county, is a gas well at 1,073 feet.

In Stark County, Ohio Fuel Gas Co.'s No. 2-5,723 on the Elizabeth farm, Section 22, Jackson Township, is a nice gas well in the Clinton lime at a total depth of 4,301 feet. Same company has a gas well in No. 1 on the Mary E. Kuntze farm, Section 18, Plain Township, same county, at a total depth of 4,468 feet.

In Fairfield County, City Natural Gas Works' No. 3 on the Andrew Ellinger farm, Section 9, Pleasants Township, is a gas well at 2,161 feet.

In Meigs County, A. N. Bengel's No. 4 on the M. and M. Hiland farm, Section 27, Salisbury Township, is dry and abandoned at 1,560 feet.

Ashland County

Moore and others are drilling No. 6 well on the George W. Black farm, Section 34, Mohican Township, Ashland County. East Ohio Gas Co. is drilling on the Mrs. F. Snider farm, Section 30, Green Township, Summitt County, Same company made location for No. 1 on the Adam Kepler farm, Section 18, same township, also set a stake for No. 1 on the H. B. Racy farm, Section 30, same township.

Brendel Producing Co. has a rig on the W. J. Lynn farm, Lot 50, Deerfield Township, Portage County. Same com-

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Complete Two More Fair Wells in Lost Run, West Virginia's Most Productive Pool

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Aug. 28.—Two more fair wells were completed in Lost Run Pool, Clay district, Ritchie County, West Virginia. Frank Finley and others, drilling as the Boehm & Strickler Oil Co., completed No. 3 on the Boehm and Neeley (Strickler heirs) lease in the Injun sand and, as soon as the sand was tapped the well started flowing at the rate of about 10 bbls. an hour. It produced over 200 bbls. the first day. It is about 400 feet north of No. 2 on this lease and is on the more productive side of the farm. No. 2 is still flowing, which is now over a month old, and settled down to about 250 bbls. a day. The tools were run in the hole and the well agitated with a resulting increase in production to about 300 bbls. a day.

South of this lease, Hinton Farm Oil Co. completed its No. 3 in this pool or the second test on the L. E. Robinson heirs farm in the Injun sand and it started off at about 60 bbls. a day. It is about 450 feet southwest of the Edgar Hinton No. 1.

This is the most productive pool brought in during the past few years in West Virginia. Ten wells have been producing, ranging from 2 to 770 bbls. a day initial. Three tests were dry holes, and one a gas well. At the present time there is but one well drilling in the direct limits, so far as is known, and that is the test of Richards Farm Oil Co. on the Michael Moran farm, on which one test resulted in a dry hole. It was on the western edge of the farm.

Ten wells and five dry holes were the result of the week in the lower eastern fields. Five of the wells were gassers and five producers with an initial daily production of 323 bbls.

WEST VIRGINIA

No additional producers were completed in West Virginia during the week. In Sherman district, Calhoun County, Hope Construction & Refining Co. treated the sand in its No. 2 on the Elias Pool farm with acid and increased the production from 6 to 12 bbls. a day. In DeKalb district, Gilmer County, Philadelphia Oil Co. shot and cleaned out its No. 7 on the Jacob Crites and others' lower tract lease and increased the production from 2 to 4 bbls. a day.

Gas Wells

Two fair gas wells were completed in Cabell County in Guyandotte district near Huntington, the scene of the recent gas pool. Graham Gas Co. completed a test on the S. P. Hager lease in the brown shale at a depth of 2,797 feet and has a gas well estimated at 2,750,000 feet a day, initial. Ross Campbell completed a test on the Juliette Enslow lease in the same formation at a depth of 2,775 feet and it is also a gas well gauging at 2,500,000 feet a day.

A typical log of the formations in Guyandotte district, Cabell County, places the Big Lime at around 1,118-1,283 feet; the Big Injun sand at 1,339-1,404 feet; the Berea sand at 1,919-36 feet; the brown shale is at 2,535-2,760 feet, with the top of the gas at 2,707 feet down to 2,725 feet.

In Calhoun County, Ira Haught and others completed No. 3 on the Alva Elder farm in Sheridan district in the Injun sand at a depth of 2,027 feet. It will make a light gas well.

In Roane County, South Eastern Gas Co. completed a second test on the D. A. Farr farm in Geary district. It was drilled in the Injun sand at a depth of 1,770 feet and will make a small gas well. In Curtis district, this county, Big Four Drilling Co. drilled a test on the W. S. Fouty and others lease through the Salt sand to a total depth of 1,900 feet and found it dry.

In Pleasants County, Julius Goebel drilled a test on the J. W. Ruckman farm in Jefferson district through the Salt sand and it proved a dry hole.

In Ritchie County, H. B. Smith and others drilled a test on the Arthur Armick farm in Grant district on the waters of Big Run. It went down through the Squaw sand and it was a dry hole.

Drilling in West Virginia

In Calhoun County there is still increased activity. On the O. S. Bennett farm in Lee and Sherman districts, F. F. McIntosh is building a rig on the Lee district side. There are locations for three other wells on the Sherman district side. In Lee district, Lowther and Shumm have reached 1,330 feet on the Rufus and Maude Mace farm. F. F. McIntosh is down 1,620 feet in No. 3 on the S. A. Hays farm. In Washington district, Grant Fowler is drilling at 1,600 feet on the Orval Postlethwait farm. Everett Starcher and others have made a location on the Anderson Cottrell farm. In Sherman district, McCall Drilling Co. completed a rig on the White Hall farm. Creed Barker has reached 1,700 feet on the I. B. Fowler farm. C. A. Jarvis and others have a location on the Ida M. Whipkey farm. C. B. Lewis and others are rigging up to start a second test on the W. T. Gainer farm. In Center district, W. A. Bickerstaff has completed a rig for a second test on the Edward Gainer farm. In Sheridan district, Cain and Rothwell are on top of the Injun sand on the Lee Roy Jones farm, and expecting completion. W. J. and O. L. Yoke have started drilling their No. 3 on the A. T. Yoke farm.

In Gilmer County, Clem Morris and others are drilling through the rock on the Cora B. Gainer farm in DeKalb district, and will soon be in the sand. In this district, McCall and others have part of the material on the ground for a second test on the Lee Gainer farm.

In Ritchie County, Clem S. Morris is down 1,775 feet on the Hiram Williams heirs' farm in Murphy district. In this district, J. F. Deem and others are drilling at 1,400 feet in a second test on the Mansfield Haught farm, and Southern Oil Co. is fishing the packer at 1,790 feet in drilling deeper its No. 4 on the

XUM

Alvin Wince farm. Uhl and Bailey have reached 1,300 feet on the J. V. Varner farm. In Grant district, Anderson and Smith are drilling at 1,560 feet on the Mary M. Ayers farm.

In Wirt County, Dailey and Benedict have completed a rig for No. 5 on the James L. Adams farm on Big Island Creek in Clay district.

In Marshall County, Guy B. and A. G. Patterson have the rig material on the ground for a second test on the C. and A. B. Williams farm in Liberty district. In Marion County, Victor Oil & Gas Co. is down 2,795 feet on the Charles H. Freeland farm in Mannington district. The top of the 30-foot sand was at 2,790 feet. In Monongalia County, Chartiers Oil Co. has reached 2,200 feet on the Thomas Williams heirs' farm in Clay district.

SOUTHEAST OHIO

Two producers were completed in Southeast Ohio and one important gas well completed. In Hanover Township, Columbiana County, a partnership drilled a deep test on the Fowler farm in the Clinton sand at a depth of about 5,900 feet. It is the first Clinton sand well in this county. The top of the Clinton sand was reached at 5,871 feet and gas was struck at 5,880 feet with a volume of about 750,000 feet a day. There was about 50 feet of gas sand showing a better appearance than the Stark County strata, and with some appearance of oil.

In Licking County, C. R. and G. W. Settles completed No. 4 on the John A. Hughes farm, Lot 3, Mary Ann Township, in the Berea sand at 680 feet. It produced 7 bbls. the first day after shot, and will probably make about a 1½-bbl. pumper. In Perry Township, Dobenspect, Golden and Wintz completed a test on the Nellie Smith farm, Section 17, in the Berea sand and it was a dry hole.

In Washington County, R. W. Turney and others completed No. 3 on the S. E. Rowland farm, Lot 1,082, Palmer Township. It was drilled in the Peeker sand at 541 feet and is showing for a 1-bbl. pumper.

SOUTHWEST PENNSYLVANIA

An important test in Southwest Pennsylvania resulted in a dry hole. In Amwell Township, Washington County, Jess Moore and others drilled a test on the John C. Parker farm through the Fifth sand to a depth of 2,996 feet. It proved dry with a slight showing of oil at 2,978 feet. The hole will be left to settle for about a week and if the oil showing improves, it will be shot. The top of the Fifth sand was at 2,965 feet with the Pittsburgh Coal at 750 feet. This test lies about 2,000 feet southwest of the producer on the C. L. Morton farm and slightly west of a direct line to production on the Hazlett farm, proving the narrowness of the Fifth sand streak.

In South Franklin Township, Washington County, E. H. and J. B. Tague completed No. 5 on the Adaline D. McKennan estate in the Dunkard sand at 888 feet. It is probably the best on this Dunkard sand extension and is making between 15 and 20 bbls. a day.

In Washington County, Union Gasoline & Oil Co. is drilling at 1,200 feet on the Leroy VanKirk farm, Amwell Township. The Pittsburgh Coal was cemented at 880 feet. In East Findley Township, Hallam and Lelis and others are down 850 feet on the H. D. Ely farm, and have not reached the coal.

In Greene County, the Natural Gas Co. of West Virginia has rigged up to drill deeper its No. 1 on the W. G. McKerrihan farm in Richhill Township. Earhart & Co. are down 850 feet on the W. J. Holmes farm in Springhill Township. In Dunkard Township, Convex Glass Co. is drilling at 1,340 feet on the Samuel Morse farm.

In Fayette County, Carnegie Natural Gas Co. has reached 2,443 feet on the H. H. Wells farm in Jefferson Township. The top of the 30-foot sand is now being drilled.

Central West Fields

(Continued from Preceding Page)

pany is drilling around 3,000 feet in No. 1 on the Joseph H. McDowell farm, Section 16, Plain Township, Stark County. Same company's No. 1 A. and L. Stephens farm, Section 9, same township, is down to 3,550 feet, and No. 1 V. L. Ney farm, Section 10, same township, is down around 2,800 feet. No. 1 on the Lillian Shoemaker farm, Section 5, same township, owned by the same company, is drilling around 1,700 feet, and is spudding a test on the Peter G. Graber farm, Section 12, same township. Same company is drilling below 2,400 feet in No. 1 on the D. Schlebach farm, Section 25, Lake Township, Stark County. Same company made four new locations in Jackson Township, same county: No. 1 on the H. L. Shriver farm, Section 10; No. 2 on the Henry Huthmather farm, Section 11; No. 1 on the Cora L. Clay farm, Section 21, and for No. 2 on the J. F. Unger farm, Section 17. Same company is drilling No. 1 Elm Wood Park, Section 14, Jackson Township, same county, and No. 1 on the Peter C. Graber farm, Section 12, Plain Township, Stark County.

White and others are drilling below 3,150 feet on the Jacob Isler farm, Section 25, Perry Township, Stark County, and is below 3,200 feet in No. 1 on the Forest Hill Cemetery lot, Section 20, Plain Township, same county. Hoover Development Co. is drilling around 4,250 feet in No. 1 on the Hoover Co.'s property, Section 20, Plain Township. Stoltz and others are drilling below 3,500 feet in No. 1 on the Lynhurst Addition, Section 17, same township. Cunningham Natural Gas Co. is reported drilling below 3,500 feet on John Marquardt farm, Section 8, Plain Township, same county. East Ohio Gas Co. is drilling No. 1 on the Hoover Co. farm, Section 9, and has a rig up for No. 1 on the Edward H. and Bertha Styer farm farm, Section 10, same township, a rig on the Charles Pontius farm, Section 16, and a rig for No. 1 on the Mary Marquardt farm, Section 8, and a location on the Alfred E. Hockwalt farm, Section 17, also in Plain Township, Stark County.

Johnson and others are below 4,100 feet on the Gail King farm, Lot 39, Charlestown Township, Portage County. Same company is drilling below 4,100 feet on the William H. Kain farm, Lot 59, Newton Township, Trumbull County.

In Knox County, Monroe Township, H. and E. Perkins are drilling below 2,500 feet in No. 2 on the H. E. Perkins farm, Sections 13 and 18, and Pure Oil Co. is drilling below 3,050 feet in No. 2 on the J. D. Reed farm, Section 2, Jackson Township, same county.

In Coshocton County, Huise & Kuntz, Inc. are drilling below 2,600 feet in No. 2 on the Rolla McKee farm, Section 17, Perry Township, and Ohio Oil Co.'s No. 5 on the Rhode heirs' farm, Section 8, Clark Township, same county, is drilling below 3,300 feet.

In Fairfield Township, Tuscarawas County, Lyons & Piefer, has a fishing job at 4,820 feet in No. 5 on the J. H. Weaver farm, Section 5, and Frey and others are recasing at 4,610 feet in No. 1 on the H. B. Gobart farm, Section 7, same township.

In Guernsey County, Adams Township, George McLaughlin is drilling on the McMamara farm, Section 11. R. W. Dunn and others are drilling on the Orland Toland farm, Section 9, Londonderry Township, same county.

In Muskingum County, Atha Co. is drilling on the Charles Tumblin farm, Section 20, Perry Township.

East Ohio Gas Co. brought in a nice gas well in No. 1 on the T. and H. McDowell farm, Section 16, Plain Township, Stark County, in the Clinton lime formation from 4,510-41 feet.

INDIANA-ILLINOIS

Indiana failed to report any new completions but in Illinois two completions were reported, both in Clark County. J. E. Hood and others drilled in a 2-bbl. producer in No. 8 well, on the H. Briscoe No. 2 farm, in Section 32, Parker Township. Martha M. Knierman's No. 8 on the N. B. Lee, same section, was a dry hole.

KENTUCKY

In the Owensboro Field in Daviess County, Tracey Supply Co. and others drilled a dry hole in No. 6 on the J. W. Richardson farm, in the Cane Run Pool, at a depth of 915 feet. The well is near the northwest corner of the farm. More wells are under way in the Owenaboro Field than for a long period.

In Hart County, Anna K. Wilson and Hillside Oil Producing Co.'s No. 11 on the W. B. Perkins farm, in the LeGrande Field, struck salt water at a total depth of 2,244 feet.

Complete Two Fair Wells in Michigan; Midland Field Extended Westward

By GEORGE A. WHITNEY

FINDLAY, Ohio, Aug. 28.—Pure Oil Co.'s No. 1 Howard, Section 17-13n-1w, Midland County, came in with a flow estimated at more than 5,000 barrels a day. It is a direct offset to W. L. McClanahan's No. 1 Hathaway, recently completed as the largest initial producer in the Porter Township area. Pay sands were struck at 3,400 feet, the well being drilled only one foot into the sand before the oil and gas rushed in and flowed into the waiting field tanks. This is nearly 25 feet higher than the top of the Dundee pay in the Hathaway well.

Pure's No. 5 Narmore, Section 15, Porter Township, came in with an initial of more than 100 barrels an hour. The Narmore well is near the Pure's No. 1 State-Porter, brought in some weeks ago as one of the biggest wells in the area.

Stewart & Gordon's No. 1 well, 330 feet from the north and west lines of the H. Carter farm, NW NW NE Section 21, Porter Township, Midland County, produced an initial of 1,150 bbls. J. V. Wickland's No. 2, 330 feet from the south and east lines of the Dan J. Carmichaels farm, SE SE Section 22, same township, Vernon Township, Isabella County, reported with an initial of 1,000 bbls.

Fred W. Turner and others' No. 2 well, 990 feet from the north and east lines of the C. L. Baxter farm, SW NE NE Section 22, Porter Township, Midland County, is credited with an initial of 306 bbls. at 3,406 feet.

Pure Oil Co.'s No. 2 well, 330 feet from the south line and 1,650 feet from the east line of the C. L. Baxter farm, SE SW SW Section 15, Porter Township, Midland County, produced 30 bbls. initial. Top of the Dundee was found at 3,350 feet and drilled 51 feet in the Dundee, total depth 3,401 feet.

William S. Wilson, trustee, has what looks like a nice producer in No. 1 well, 330 feet from the north and east lines of the Maywood Carter farm, NE NE NW Section 18, Porter Township, Midland County, after drilling to 3,423 feet, flowed 61 bbls. of oil, but failed to sustain production and was being swabbed. Unless the agitation brought free delivery of oil it was expected the well would be treated with acid. This well is the farthest west yet completed into the Dundee.

McClanahan Oil Co.'s No. 1 well, 330 feet from the north line and 1,320 feet from the south line of the G. R. Hathaway farm, S half SE Section 17, Porter Township, Midland County, was completed on July 18 for 1,710 bbls. initial, and on August 5 it was deepened 5 feet to 3,418 feet and showed an increase to 3,600 bbls. a day. It was again deepened to 3,426 feet with an increase to 4,300 bbls. a day against back pressure. Since the last deepening the well has continued to produce above the 4,000-bbl. a day mark against back pressure. Later the well was opened up, however, not completely, and flowed 5,000 bbls. of oil into the line. It was estimated that had the well been flowed for 24 hours open it would have reached 6,000 bbls. or more. The equipment on the well would not carry the open flow for a 24-hour period. No. 2, same farm, is drilling below 1,700 feet and spudding on No. 3, same farm. This well is now considered to be the premier well so far found in the Central Michigan Field, due to its steady production.

William J. Wilson, trustee's test, on the Maywood Carter farm, Section 18, Porter Township, Midland County, was treated with acid and produced an initial of 800 bbls. from the Dundee at 3,224 feet.

Lawson Oil & Gas Co.'s No. 2 "A" well, 330 feet from the north and east lines of the Arlinda and Arvilla Thayer farm, NE NE SW Section 23, Vernon Township, Isabella County, is in the Dundee 10 feet, flowed 30 bbls. and indicates a commercial producer when completed.

Ann Corning estate's No. 1 test, 1,040 feet from the north line and 660 feet from the west line of the farm, NE NE NE Section 1, Jasper Township, Midland County, drilled by the Pure Oil Co., has been given up as a dry hole.

Drilling Permits

Permits have been issued to Muskegon Oil Corp. for No. 1 well, 990 feet from the south line and 330 feet from the east property line of the Jacob Drent farm, NE NE SW Section 30, Egleston Township, Muskegon County; to Gordon Oil Co. for No. 1 well, 330 feet from the south line and 330 feet from the east property line of the W. J. Deibel farm, SE SE NW Section 18, Porter Township, Midland County; for No. 2 well, 330 feet from the south line and 330 feet from the west property line of the L. Good farm, SE NE SE Section 17, Porter Township, Midland County; to Gratiot County Co-operative Syndicate for No. 1 well, 330 feet from the south line and 330 feet from the east property line of George Raycraft farm, SE NE NW Section 20, Pine River Township, Gratiot County; to Gordon Oil Co. for No. 1 well, 330 feet from the north and 330 feet from the west property line of the J. A. McDonald farm (to be called No. 1 Gordon-Bell-McDonald), NW NW SE Section 25, Vernon Township, Isabella County.

Permita were also issued to the Mammoth Petroleum Corp. for No. 1 well, 330 feet from the south line and 330 feet from the west property line of the Charles McDonald farm, SW NW SW Section 24, Vernon Township, Isabella County; for No. 1 well, 330 feet from the south line and 330 feet from the west property line of the Arlinda and Arvilla Thayer farm, SW NW NW Section 25, Vernon Township, Isabella County; for No. 2 well, 330 feet from the south line and 330 feet from the east property line of the Arlinda and Arvilla Thayer farm, SE NE SW Section 23, same township and county; for No. 3 well, 330 feet from the south line and 990 feet from the east property line of the Arlinda and Arvilla Thayer farm, SW NE SW Section 23, same township and county; for No. 4 well, 330 feet from the south line and 990 feet from the west property line of Arlinda and Arvilla Thayer farm, SE NW SW Section 23, same township; for No. 2 well, 330 feet from the south line and 330 feet from the west property line of the William and F. J. Maricelles farm, SW NW SE Section 23, Vernon Township, Isabella County; for No. 3 well, 330 feet from the south line and 330 feet from the east property line of the

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Canadian Fields

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pressure tests of wells throughout the Turner Valley Field will be made about the middle of September. Wells will be closed in for 24 hours after which they will be visited by department inspectors and the pressures determined by a government inspected gauge. In order that pressures obtained for the field may not conflict, Mr. Calder recommends that each well be blown for an hour before it is closed in.

Saskatchewan Drilling

On the Dirt Hills structure in southern Saskatchewan, Highwood-Sarcee Oils' No. 2, LSD 8, Section 23-12-24w2, is resuming after rebuilding derrick which was wrecked by a heavy storm. New hole is being made from around 1,600 feet. Several small shows of gas were encountered.

British Columbia Test

In the Sage Creek area, southeastern British Columbia, Columbia Oils' No. 1 which spudded in last June is reported drilling below 300 feet. A solid rock formation was entered at 78 feet with a strong show of oil at 100 feet. From 5 to 15 bbls. a day are being bailed and stored. Plans provide for using this and subsequent production as fuel for drilling, and a 1,000-bbl. steel tank has been brought to the well for storage. Samples show the oil to be straw colored showing crude, gravity 50; gasoline, gravity 58 and residue 38½ gravity Diesel oil. The well started as a 15½-inch hole with 15-inch casing, which will be continued to 600 or 700 feet. Drilling plans are based on the probability of a 3,500 to 4,000-foot hole being required to secure commercial production. Cable tools are being used at present with 20 men working three shifts, operations being in charge of George W. Brake, formerly general manager of the International Petroleum Co. The test spudded in July 8.

Drilling in Ontario

In Lambton County, Ontario, British Petroleum Co.'s No. 1 deep test, on the Archie McKinlay farm, Lot 22, Concession 9, Plympton Township, is reported drilling below 500 feet. Oil shows encountered in these tests showed a good grade, testing 34.9 gravity with 28 per cent gasoline content and paraffin basis. Underlying the Onondaga lime there are at least three potential oil and gas horizons, the Niagara, the Clinton and the Trenton limestone.

In Pelee Island, Essex County, Ed Winters and associates of Leamington are reported preparing for a new test for oil and gas.

Oil Strike at Newbury

In Middlesex County, some shallow oil production has been developed on the Herbert Gould farm in Mosa Township, 2 miles east of Newbury, close to the area where a couple of years ago the Southern Ontario Gas Co. got a fair gas producer at around 1,500 feet. A second test will be drilled.

Fort Norman Operations

In the North West Territories, Imperial Oil, Ltd., is continuing production and refining operations in the Fort Norman Field. Operations are handled through the company's producing subsidiary, the Northwest Co., Ltd.

Gulf Coast Fields and Wildcats

(Continued from Page 54)

Texas Co.'s No. 1 Sherman McCall, Samuel Kennedy Sur., 300 ft. N, 132 ft. W of SE cor. lease ..... W.O.C. 1,251 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 1-B Broussard & Orme, 126 ft. E of center of W line of M. Dunman Sur. ..... Coring sand; S.O. 5,349 ft.
Yount Lee Oil Co.'s No. 36 Cade, N. Fitzsimmons Sur., 600 ft. from S line, 240 ft. E of No. 34 ..... W.O.C. 5,370 ft.
Yount Lee Oil Co.'s No. 1-B Cade, N. Fitzsimmons Sur., 488 ft. from S line, 320 ft. from E line ..... Drlg. shale and sand 4,968 ft.
Yount Lee Oil Co.'s No. 17 Smith, M. Dunman Sur., 300 ft. SW of No. 14 ..... Sand and shale 6,287 ft.
Yount Lee Oil Co.'s No. 18 Smith, M. Dunman Sur., 175 ft. S of No. 9 ..... Drlg. shale 5,762 ft.

ARIOLA—HARDIN COUNTY

Republic-Houston Oil Co.'s No. 4 Ariola, 800 ft. NE of No. 1, Ariola Sur. ..... Drlg. 3,500 ft.

BATSON—HARDIN COUNTY

Danciger O. & R. Co.'s No. 1 Hooks, 95 ft. S, 150 ft. W of NE cor. of Strip 11, Donoghue Sur. ..... W.O.C. 5,011 ft.

TOMBALL—HARRIS COUNTY

Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Bloecher, J. N. Hooper Sur. (Abst. A-375), 1,050 ft. from S line, 650 ft. from W line ..... Drlg. sand 5,521 ft.
Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Gebhart, Wm. Perkins Sur., 1,399 ft. from N line of survey, and 1,400 ft. from W line of tract ..... Drlg. shale 4,570 ft.
Humble O. & R. Co.'s No. 1 Hendricks, 505 ft. from E line, 466 ft. from N line of 95.7-ac. tract, Wm. Hurd Sur., (Abst. 376) ..... Drlg. shale 1,160 ft.
Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Emil Schultz, 1,107 ft. N, 900 ft. E of SW cor. of 123.71 acres ..... Hard sand 5,566 ft.; cmtd. 7-in. csg. 5,554 ft.; comp. 43 bbls. an hr.; ½-in. choke reduced to 3/16-in. choke; 330 bbls. first 24 hrs.
Magnolia Pet. Co. and Humble O. & R. Co.'s No. 1 Wm. Rudel (63 acres), Joseph House Sur., 350 ft. out of SW cor. of lease ..... Cmtd. one string 5-in. screen and csg. 5,571 ft.; 1,500,000 ft. gas and 60 gal. of distillate per hr.
Texas Co.'s No. 1 H. Martens, C. Goodrich Sur., 666 ft. W, 300 ft. N of SE cor. of lease ..... Derrick.
Texas Co.'s No. 2 E. Mueller, J. M. Hooper Sur., 658 ft. N and 389 ft. W, SE cor. of lease ..... Derrick.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 101-A Jordit, Jordit Sur. ..... Comp. pumping 15 bbls. daily; 1,154 ft.
Rio Bravo Oil Co.'s No. 102 Jordit, Jordit Sur. ..... Derrick.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 4 Esperson (W.O.) ..... Drlg. 5,355 ft.
Cranfill-Reynolds Co.'s No. 11 Moores Bluff, Duncan Sur., 2,100 ft. from N line, 1,069 ft. from E line of 632-ac. tract ..... Drlg. 4,120 ft.

HULL—LIBERTY COUNTY

Miramar Oil Corp.'s No. 2 Phoenix Dev. Co. (25 ac.), Jesse DeVore Sur., 230 ft. S line, 250 ft. W line ... Set csg. 393 ft.
The Texas Co.'s No. 8 Hannah (W.O.), Jesse DeVore Sur. ..... T.D. 5,133 ft.; sidetracking sandy shale 5,133 ft.

CONROE—MONTGOMERY COUNTY

Alpha Oil Co.'s No. 1 Allen, Lemuel Smith Sur., 275 ft. E line, 467 ft. N line ..... Drlg. sandy shale 4,240 ft.
Alpha Oil Co.'s No. 10 Keystone Mills, L. Smith Sur., 755 ft. NE of No. 5 ..... No report.
H. M. Crighton's No. 2-B South Tex. Dev. Co., T.&N. O. Sur. No. 5, center 18.50 acres ..... Drlg. shale 5,118 ft.
Feltex Oil Co.'s No. 4 Kirby-Bertrand, G. W. Wagers Sur., 340 ft. W line, 1,389 ft. S line ..... Drlg. shale 5,020 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 12-A Keystone Mills, A. James Sur., 467 ft. from W line, 933 ft. S of No. 11 ..... No report.
Hamill & Smith's No. 3 Lewellen, R. G. Hamlett Sur., 2,757 ft. NE cor. of Sur. ..... Dry and abd. 5,500 ft.
Harrison & Abercrombie's No. 7 Massey, J. Massey Sur., 852 ft. S of No. 8 ..... Rigging.
Houston Oil Co.-Tide Water Oil Co.'s No. 8 Hamman, C. B. Stewart Sur., 1,214 ft. from W line, 1,690 ft. from S line ..... Rig.
Houston Oil Co.-Tide Water Oil Co.'s No. 3 Hooper, I.&G.N. Sur. No. 11, 667 ft. S of No. 1 in center E and W ..... Comp. 148 bbls. in 12 hrs.; ½-in. choke, 5,145 ft.
Houston Oil Co.-Tide Water Oil Co.'s No. 5 Moore, Lemuel Smith Sur., 466 ft. SW cor. ..... Drlg. shale 1,466 ft.
Humble O. & R. Co.'s No. 8 Emory, W.C. Ry. Sur., No. 13, 400 ft. from S line, 379 ft. from E line of lease ..... Comp. 37 bbls. an hr.; ½-in. choke; T.D. 5,140 ft.
Humble O. & R. Co.'s No. 9 Dobbins, Ransom House Sur., 425 ft. N line of tract, 3,610 ft. W line ..... Drlg. 3,390 ft.
Humble O. & R. Co.'s No. 13 Madeley, Ransom House Sur., 1,100 ft. SE of No. 6 ..... Comp. 82 bbls. an hour; ½-in. choke; T.D. 5,148 ft.
Humble O. & R. Co.'s No. 22 Madeley, Ransom House Sur., 933 ft. NE of No. 10 ..... Rigging.
Humble O. & R. Co.'s No. 23 Madeley, Ransom House Sur., 933 ft. SW of No. 3 ..... Rigging.
Humble O. & R. Co.'s No. 2 L. B. McComb, Lemuel Smith Sur., 625 ft. N line, 500 ft. E line ..... Rigging.
Humble O. & R. Co.'s No. 6 L. B. McComb, Lemuel Smith Sur., 466 ft. from S line, 500 ft. from W line.. Comp. 37 bbls. an hour; ½-in. choke; T.D. 5,128 ft.
Humble O. & R. Co.'s No. 7 L. B. McComb, L. Smith Sur., 525 ft. SW, 550 ft. NW of E cor. of lease .... Rigging.
Humble O. & R. Co.'s No. 18 Moore, L. Smith Sur., 933 ft. NW of No. 8 ..... Drlg. shale 5,030 ft.
Humble O. & R. Co.'s No. 28 Moore, Lemuel Smith Sur., 933 ft. SW of No. 23 ..... Drlg. shale 5,020 ft.
Humble O. & R. Co.'s No. 29 Moore, Lemuel Smith Sur., 1,569 ft. NE of No. 32 ..... Comp. 95 bbls. per hour; ½-in. choke; T.D. 5,127 ft.
Humble O. & R. Co.'s No. 32 Moore, L. Smith Sur. .... Drlg. lime 2,286 ft.
Humble O. & R. Co.'s No. 42 Moore, L. Smith Sur., 550 ft. SE right angles out of most easterly NE cor. of lease ..... Drlg. 720 ft.
Humble O. & R. Co.'s No. 37 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. NE of No. 36 ..... Comp. 87 bbls. per hour; ½-in. choke; T.D. 5,147 ft.
Humble O. & R. Co.'s No. 40 Moore, Lemuel Smith Sur., 1,200 ft. SW, 300 ft. SE of most easterly NE cor. of lease ..... Comp. 47 bbls. an hour; ½-in. choke; T.D. 5,129 ft.
Humble O. & R. Co.'s No. 41 South Tex. Dev. Co., Theodore Slade Sur., 933 ft. SW of No. 4 ..... Rigging.
Humble O. & R. Co.'s No. 47 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. NE of No. 9, and 933 ft. NW of No. 2 ..... Rigging.
Humble O. & R. Co.'s No. 3 E. Moorehead, L. A. Lang Sur., 500 ft. S line, 410 ft. E line ..... Comp. 74 bbls. per hour; ½-in. choke; T.D. 5,132 ft.
Humble O. & R. Co.'s No. 2-E South Tex. Dev. Co., C. A. West Sur. ..... Drlg. shale 3,917 ft.
Humble O. & R. Co.'s No. 8-B South Tex. Dev. Co., C. T. Darby Sur. ..... Comp. 85 bbls. an hr.; ½-in. choke, T.D. 5,137 ft.
Humble O. & R. Co.'s No. 1-D South Tex. Dev. Co., 344 ft. E of center of W line of T.&N.O. Sur. No. 15 .. W.O.C. 5,153 ft.
Humble O. & R. Co.'s No. 1-E South Tex. Dev. Co., C. A. West Sur., center of 20-ac. lease ..... W.O.C. 5,145 ft.
Malta Oil Co.'s No. 2 Tex-Osage, G. Harris Sur., 378 ft. S line, 466 ft. N line of lease ..... Drlg. shale 2,785 ft.
Martex Oil Corp.'s No. 1 J. C. Young, Wilson Strickland Sur., 231 ft. from E line, 131 ft. from S line of 2½ acres ..... Drlg. shale 1,700 ft.
R. D. Simonton, rec.'s No. 2 Hooper, J. W. Watson Sur., center of middle 10 acres of 60-ac. lease ..... Comp. 75 bbls. per hour; ½-in. choke, 5,137 ft.
Southern Liberty Oil Co.'s No. 4-B South Tex. Dev. Co. ..... Drlg. shale 5,054 ft.
Southland Oil Co.'s No. 5 Cummings, Wilson Strickland Sur., 766 ft. E line, 284 ft. S line of lease .... Drlg. 4,750 ft.
Strake Pet. Corp.'s No. 2 Keystone Mills ..... Drlg. 2,710 ft.
Sun Oil Co.'s No. 8 Foster, J. Bricker Sur. ..... Drlg. 3,680 ft.
Sun Oil Co.'s No. 11 Foster, J. Bricker Sur. ..... Coring sand 5,434 ft.
Sun Oil Co.'s No. 13 Foster, J. Bricker Sur. ..... Drlg. shell 2,793 ft.
Sun Oil Co.'s No. 15 Foster, J. Bricker Sur. ..... Drlg. 3,720 ft.
Sun Oil Co.'s No. 32 Foster, J. Bricker Sur., 1,358 ft. S, 1,613 ft. E of lease and survey line ..... Derrick.
Sun Oil Co.'s No. 2 Clark, S. Y. Sutton Sur., 467 ft. from W line, 409 ft. from S line ..... Comp. 95 bbls. per hour; ½-in. choke, 5,130 ft.
Tide Water Oil Co.'s No. 12 Dean, W. C. C. Lynch Sur., 330 ft. out of NW cor. ..... T.D. 6,020 ft.; pulling pipe 2,994 ft.; sidetracking 2,806 ft.
Tide Water Oil Co.'s No. 24-A Lewis, C. B. Stewart Sur., 1,400 ft. from W line, 1,345 ft. from N line .... Cmtd. 7-in. csg. 5,107 ft.
Tide Water Oil Co.'s No. 25-A Lewis, C. B. Stewart Sur., 1,400 ft. W line, 2,233 ft. N line ..... Drlg. shale 1,929 ft.
Tide Water Oil Co.'s No. 26-A Lewis, C. B. Stewart Sur., 1,175 ft. W line, 3,101 ft. N line ..... Cmtd. 10-in. csg. 934 ft.
Tide Water Oil Co.'s No. 8 South Tex. Dev. Co., T. &N.O. Sur. No. 5, 467 ft. from W line, 2,600 ft. from N line ..... Comp. 42 bbls. in 30 min., ½-in. choke; T.D. 5,125 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Texas Co.'s No. 11 Abrams (W.O.) ..... T.D. 2,852 ft.; cmtd. 4¾-in. csg. 2,807 ft.; set screen; comp. 10 bbls. a day.

LIVINGSTON—POLK COUNTY

Gist Oil Co.'s No. 1 Kavanaugh Collins, A. Viesca Sur., 150 ft. NE, 150 ft. NW, SE cor. G. P. Reid's 740-ac. tract ..... Fishing 2,212 ft.
Polk County Oil Corp.'s No. 2 Allen & Hilbrager (Craig), A. Viesca Sur., 330 ft. N, 330 ft. W of NE cor. of Shell's Munson 41.35-ac. tract ..... Comp. 815 bbls. in 15 hrs.; 17/64-in. choke; T.D. 4,223 ft.
Shell Pet. Corp.'s No. 2 Davis & Holmes, A. Viesca Sur., 485 ft. N, 376 ft. W of NE cor. of Jim Duff 35-ac. tract ..... T.D. 4,438 ft.; swbng. 5 to 6 bbls. net oil per hr.
Sunby Oil Co.'s No. 1 Grandburry & Smith, W. Shadburn Sur., 500 ft. SW of NE cor. Williams Sur., 150 ft. NW ..... W.O.C. 436 ft.
J. Z. Werby's No. 1 Harwood, W. F. Renfro Sur., 300 ft. SW, 469 ft. SE line ..... Abd. 4,661 ft.

FANNETT—JEFFERSON COUNTY

Black Gold Oil Co.'s No. 1 Jackson, Wm. Smith Sur., 5,766 ft. S line, 117 ft. from W line (356) ..... Derrick.
Gulf Prod. Co.'s No. 7 Burrell, W. H. Smith Sur., 150 ft. W of No. 6 ..... Drlg. shale 2,527 ft.
Gulf Prod. Co.'s No. 2-A Junker, W. A. Smith Sur., 100 ft. from N line, 320 ft. from E line of lease ..... Comp. 39 bbls. an hr. for 17 hrs.; ½-in. choke; T.D. 3,704 ft.
Gulf Prod. Co.'s No. 13 Thomas, W. H. Smith Sur. .... Rigging to D.D.; T.D. 4,190 ft.

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 2 Crowe & Jacobs, 1,700 ft. E, 1,050 ft. N of SW cor. of H.&T.C. Sur. No. 21 ..... Drlg. shale 4,584 ft.

HOCKLEY—HARRIS COUNTY

John Deering's No. 4 Warren, T. A. Scully Sur., 250 ft. SW of Texas Co.'s No. 2 Warren ..... S.D. 1,140 ft.; shale.
F. H. Scott's No. 1 Kientworth, I. Curd Sur, 300 ft. N line, 400 ft. E line ..... Drlg. shale 850 ft.

MYKAWA—HARRIS COUNTY

Crown-Framer Oil Co.'s No. 4 Minnetex, Wm. Lovett Sur., 165 ft. S, 120 ft. W of NE cor. Blk 193 ..... T.D. 6,530 ft.; P.B. to 5,250 ft.; sidetracked and D.D.

HUMBLE—HARRIS COUNTY

Texas Co.'s No. 22 Koehler ..... Drlg. 3,091 ft.

PIERCE JUNCTION—HARRIS COUNTY

Rio Bravo Oil Co.'s No. 22-A Settegast (D.D.), J. Kopman Sur. No. 44, 900 ft. S, 200 ft. W of NE cor. lease ..... T.D. 4,311 ft.; sidetracked and set 4½-in. screen at 4,208 ft.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 1-B Polk, Jacob Beaumont Sur., 150 ft. NE cor. ..... Derrick.

The Texas Co.'s No. 1 Orange Nat. Bank, 150 ft. out of NW cor of lease, Jacob Beaumont Sur. ..... T.D. 4,799 ft.; pulling screen and liner to take impression.

GRETA—REFUGIO COUNTY

Atlantic Oil Prod. Co.'s No. 1 O'Brien, E. H. Winfield Sur., Blk. 5, 466 ft. from S line in center of block E and W ..... Drlg. shale 3,832 ft.

Atlantic-Alamo's No. 1 J. J. O'Brien, E. H. Winfield Sur., 466 ft. out of NW cor. 167-ac. lease ..... W.O.C. 312 ft.

Atlantic-Alamo's No. 1 J. M. O'Brien, E. H. Winfield Sur., 466 ft. out of SE cor. 212-ac. tract ..... W.O.C. 1,290 ft.

Atlantic Oil Prod. Co. and Heyser & Heard's No. 2 O'Brien ..... Derrick.

Bianco Oil Co.'s No. 2-B J. M. O'Brien, E. H. Winfield Sur., 466 ft. out of SE cor. 50 acres ..... Sticky shale 1,600 ft.

Bianco Oil Co.'s No. 2-A J. J. O'Brien, N. C. Crunk Sur., 600 ft. SW of No. 1-A ..... W.O.C. 4,355 ft.

Circle W Oil Co.'s No. 1 O'Brien, E. H. Winfield Sur., 463 ft. from S line of survey, 466 ft. from E line of 112-ac. tract ..... Drlg. shale 4,190 ft.

Circle W Oil Co.'s No. 2 O'Brien, E. H. Winfield Sur., 1,989 ft. from N line, 466 ft. from E line of 212-ac. tract ..... Drlg. hard sand 3,629 ft.

Dash Prod. Co.'s No. 2 O'Brien, N. S. Crunk Sur., 466 ft. S of N line of center E and W ..... Drlg. shale 1,235 ft.

Dash Prod. Co.'s No. 3 O'Brien, N. S. Crunk Sur., 645 ft. of W line, 301 ft. at right angles R.R. ..... Spudding.

Greta Oil Corp.'s No. 2 O'Brien, E. H. Winfield Sur., 150 ft. out of SW cor. of tract ..... Drlg. shale 2,600 ft.

Heyser & Heard's No. 2 O'Brien, E. H. Winfield Sur., 466 ft. NW cor. 50-ac. tract, Blk. 6 ..... Spudding.

Heyser & Heard's No. 1 J. M. O'Brien, C S½, Blk. 5 .. Rigging.

Edwin M. Jones' No. 1 J. M. O'Brien, C S½ of Blk. 4, or 466 ft. from S and W lines of 50-ac. tract. . Set surface csg.

Edwin M. Jones' No. 1 A. O'Brien ..... Rigging.

Edwin M. Jones' No. 2 O'Brien, E. H. Winfield Sur., Blk. 4, 466 ft. from N line in center E and W ..... Derrick.

Edwin M. Jones' No. 2-B O'Brien ..... Drlg. 1,150 ft.

Edwin M. Jones' No. 3-G O'Brien ..... Derrick.

Nearal Oil Co.'s No. 1-A Wilson Heard, M. J. Ximines Sur., 330 ft. out of NE cor. lease ..... Drlg. rock 4,508 ft.

Nearal Oil Co.'s No. 1 Ira Heard, M. J. Ximines Sur., 330 ft. out of NW cor. of 25-ac. tract ..... Drlg. shale 1,900 ft.

Nearal Oil Co.'s No. 1 O'Connor ..... W.O.C. 4,353 ft.

Nearal Oil Co.'s (Pearson) No. 1 Thomas O'Connor, 330 ft. SE of railroad ..... Derrick.

Rutherford and Atlantic Oil Prod. Co.'s No. 1 O'Brien, Crunk Sur. ..... Drlg. shale 1,251 ft.

Smith & Flobott's No. 1 O'Brien, E. H. Winfield Sur., 150 ft. out of SW cor. ..... No report.

Smith & Flobott's No. 1 J. F. B. Heard, 466 ft. from W line, 522 ft. from S line of 150-ac. tract, Maria Jesus and Ximines Sur. (A-324) ..... Drlg. shale 1,200 ft.

Southwest Pet. Corp.'s No. 2-A O'Brien, E. H. Winfield Sur., 466 ft. NW cor. 25-ac. tract ..... Derrick.

Southwest Pet. Corp.'s No. 2-B O'Brien, E. H. Winfield Sur., 466 ft. from R.R. right of way, 933 ft. SW of No. 1-B ..... Drlg. shale 2,110 ft.

Southwest Oil Corp.'s No. 1 C. O'Brien, N. S. Crunk Sur., 430 ft. W of E line, 345 ft. S of N line of 22.7 acres ..... Drlg. shale 1,248 ft.

Texas Gulf Prod. Co.'s No. 1 J. M. O'Brien, J. A. Peoples Sur., 466 ft. SW cor., Blk. 3 ..... Moving in material.

Texas Gulf Prod. Co.'s No. 2 J. M. O'Brien, J. A. Peoples Sur., 466 ft. NW cor., Blk. 3 ..... Moving in material.

Texas Gulf Prod. Co.'s No. 1 J. M. O'Brien, J. H. Winfield Sur., 466 ft. NS line, center E and W, Blk. 12 ..... Moving in material.

United Prod. Co.'s No. 6 Fox est., Wm. Hews and L. Brown Sur., 2,956 ft. N line, 787 ft. E line ..... W.O.C. 312 ft.

SOUTH LOUISIANA FIELDS

ASSUMPTION PARISH

Barnsdall Oil Co.'s No. 1 Williams, 330 ft. out of NE cor. Sec. 28-14s-14e ..... Drlg. shale 6,879 ft.

VINTON—CALCASIEU PARISH

Wilson Broad's No. 10 Wilson Strip, 650 ft. N, 379 ft. E, SW cor. SE NE Sec. 33-10s-12w ..... Drlg. 2,040 ft.

CALCASIEU PARISH

Fred Oil Co.'s No. 1 Farszt. 566 ft. N, 300 ft. W, SE cor. NW SE Sec. 26-8s-10w ..... Derrick.

Quintana Oil Co.'s No. 1 Nelson, 1,515 ft. N, 85 ft. W of SW cor. Sec. 23-10s-9w ..... Drlg. shale 7,770 ft.

Union Sulphur Co.'s No. 1 Stout, 1,237 ft. N, 1,167 ft. W of SE cor. Sec. 36-8s-8w ..... Drlg. 7,148 ft.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co. of La.'s No. 3 Myrtle Grove, 2,100 ft. N, 200 ft. W, SE cor. SW Sec. 52-9s-11e ..... O.W.D.D. 2,470 ft.

Standard Oil Co. of La.'s No. 5 Myrtle Grove, 1,700 ft. N, 200 ft. W, SE SW cor. SW Sec. 52-9s-11e ..... Capping piling.

EVANGELINE PARISH

J. E. Leadau's No. 2 Vidrine, 260 ft. W, 400 ft. S, NE cor. Sec. 47-3s-2e ..... O.W.D.D.; drlg. 1,532 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 5 Alliance Trust Co., 525 ft. from N line, 580 ft. from W line of Sec. 34-11s-1w ..... Hard sand 4,302 ft.

Pure Oil Co.'s No. 1 Grady Lee-Humble, 2,031 ft. E, 225 ft. N of NW cor. Sec. 34, in Sec. 27-11s-1w... Bldg. road and foundation.

Pure Oil Co.'s No. 4 Mulvey, 1,721 ft. from N line, 2,515 ft. from W line of Sec. 34-11s-1w ..... Drlg. lime 3,518 ft.

LAFAURCHE PARISH

Barnsdall Oil Co.'s No. 1 Harang, Lot 6, in Twp. 17s-20e. Drlg. 500 ft. .

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 9 Lake Barre-L.L.&E., 4,013 ft. S, 305 ft. E of NW cor. Sec. 30-21s-20e in Sec. 36-21s-19e ..... Drlg. 1,495 ft.

Texas Co.'s No. 22 State-Lake Barre, 150 ft. northerly from No. 18 ..... Drlg. 2,811 ft.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 4-A Watkins fee, 485 ft. E, 200 ft. N of SW cor. NW NE Sec. 9-10s-9w ..... Rigging.

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 15 Watkins, 1,890 ft. from N line and 680 ft. from E line of Sec. 18-12s-12w ..... Comp. 838 bbls. P.L. oil; ½-in. choke, 4,551 ft.

HACKBERRY—CAMERON PARISH

Gulf Ref. Co.'s No. 12 Irwin, 865 ft. N, 518 ft. E of SW cor. Sec. 44-12s-9w ..... Drlg. hard shale 5,779 ft.

Texas Co.'s No. 10-B State, 1,000 ft. E, 200 ft. N of NE cor. Sec. 13-12s-10w ..... Cutting and pulling screen 7,-264 ft.

Union Sulphur Co.'s No. 7 Gulf Land-Humble lease, 1,010 ft. N, 661 ft. E of SW cor. Sec. 12-12s-10w... Drlg. wtr. sand 4,915 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Barnsdall Oil Co.'s No. 1 Heyd, 330 ft. SW cor. of E½ SW Sec. 7-9s-6w ..... Derrick.

8 "KING-CLIP" features
GATE VALVE

1 Ample packing space. Gland follower in 1 inch and larger sizes.

2 Bronze stem. Strong, heavy threads always in full contact, with valve open or closed. Repacking shoulder at top of thread.

3 No stem-thread corrosion. Bronze bushing cast in bonnet protects threads from contact with iron.

4 Channels to drain bonnet.

5 Horseshoe band disc-stem connection adds strength to bronze disc. Sharply tapered solid wedge disc is well suited to handling heavy fluids.

6 Rolled-in bronze seat rings. Will not loosen and cause leakage.

7 Extra long pipe thread in heavy iron body prevents pipe ends jamming against diaphragm or seat rings.

8 Good workmanship.

The ¼ to 2 inch sizes are recommended for 150 lb. SP (450° F.) or 225 lb. GLP (150 F°.), and the 2-½ to 4 inch sizes for 125 lb. SP or 175 lb. GLP. "King-clip" Gate Valves are also available in outside screw and quick operating types, bronze mounted or all-iron,

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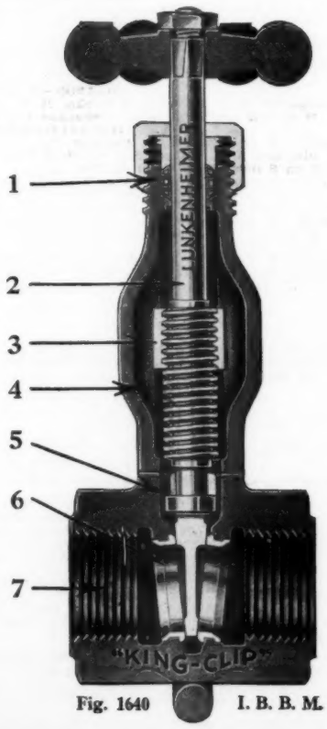

Fig. 1640 I. B. B. M.

LUNKENHEIMER VALVES

5-64-91

Magnolia Pet. Co.'s No. 4 Waite, Sec. 12-9s-7w, 330 ft. from E line, 660 ft. S of No. 3 ..... Sticky shale 6,270 ft.; drill pipe stuck.

Magnolia Pet. Co.'s No. 2 Willett, 990 ft. N, 330 ft. E of SW cor. NW Sec. 7-9s-6w ..... Drlg. sticky shale 6,235 ft.

Shell Pet. Corp.'s No. 4 Heyd, 2,122 ft. W, 1,310 ft. S of NE cor. Sec. 13-9s-7w ..... Blowing wild; T.D. 4,929 ft.; on fire.

Shell Pet. Corp.'s No. 5 Heyd, 325 ft. S of NW cor. of Sec. 18-9s-7w, and 225 ft. W of E line of Sec. 13.. Sticky gumbo 1,666 ft.

Shell Pet. Corp.'s No. 6 Heyd, 660 ft. S line, 660 ft. W line of lease, Sec. 18-9s-7w ..... Rigging.

Shell Pet. Corp.'s No. 2 Stafford, 330 ft. from W line and 265 ft. from S line of NW Sec. 18-9s-6w ..... T.D. 6,013 ft.; cmtd. 7-in.

Shell Pet. Corp.'s No. 1 Tuten, 265 ft. S, 330 ft. W of NE cor. SW Sec. 13-9s-7w ..... Temp. S.D. 1,337 ft.

JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 2 Devilbiss, 1,850 ft. S, 250 ft. W of NE cor. Sec. 14-9s-4w ..... T.D. 7,843 ft.; P.B. to 7,100 ft.; W.O.C.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 13 Houssiere-Latrielle, Sec. 47-9s-2w, 300 ft. E of No. 12 ..... No report.

LEESVILLE—LA FOURCHE PARISH

Texas Co.'s No. 7 L.L.E., 2,921 ft. S, 300 ft. W of NE cor. Sec. 27-21s-22e ..... Rigging.

PLAQUEMINES PARISH

Texas Co.'s No. 9 Garden Island Bay, 4,791 ft. S, 2,504 ft. W of NE cor. Sec. 104-23s-32e ..... Drlg. gumbo 985 ft.

PORT BARRE—ST. LANDRY PARISH

Texas Co.'s No. 16 Botney Bay, Sec. 4-6s-5e ..... Made 294 bbls. on ¾-in. choke, 3,112 ft.; comp.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 1 Lacey Frank, 1,640 ft. N, 1,175 ft. W, SE cor. Sec. 16-10s-4e ..... Rig.

STARKS—CALCASIEU PARISH

Union Sulphur Co.'s No. 2 Industrial, 1,245 ft. N, 390 ft. E of SW cor. Sec. 20-9s-12w ..... Drlg. shale 4,803 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 723 fee (W.O.), 1,179 ft. N, 640 ft. W of SE cor. SW NW Sec. 29-9s-10w ..... T.D. 4,273 ft.; P.B. to 3,500 ft.; drlg. deeper 3,620 ft.

Union Sulphur Co.'s No. 757 fee, Sec. 29-9s-10w, 300 ft. W of C section ..... Drlg. 4,962 ft.

Union Sulphur Co.'s No. 783 fee, Sec. 29-9s-10w ..... Salt 5,117-5,761 ft.; sidetracking at 4,509 ft.

Union Sulphur Co.'s No. 785 fee, 836 ft. N, 703 ft. E of center of Sec. 29-9s-10w ..... Drlg. 3,280 ft.

ST. BERNARD PARISH

Southern Sulphur Co.'s No. 1 Lake Lery, 400 ft. W, 500 ft. N, SW cor. Sec. 28-13s-15e ..... Drlg. 290 ft.

Southern Sulphur Co.'s No. 1 State Lake Bargne, 850 ft. N, 230 ft. E, SE cor. Sec. 33-13s-15e ..... Drlg. 645 ft.

ST. LANDRY PARISH

H. H. Hotchins Lbr. Co.'s No. 1 Whiteman Lbr. Co., 250 ft. out of SW cor. NE Sec. 15-5s-6e ..... W.O.C. 710 ft.

ST. MARTIN PARISH

E. R. Bram et al's No. 1 Toby, 2,600 ft. northwesterly along Bayou Teche from S, or out of SE cor. of Sec. 105, being point where bayou crosses twp. line, thence northeasterly at right angles 660 ft., in Sec. 105-8s-5e ..... Derrick.

Standard Oil Co. of Kansas' No. 1 E. B. Hopkins, Sec. 33-10s-6e ..... W.O.C. 6,010 ft.

TERREBONNE PARISH

Texas Co.'s No. 6 State Bay-St. Elaine, 700 ft. S of No. 3, Sec. 17-22s-18e ..... Drlg. 3,190 ft.

Texas Co.'s No. 9 State-Lake Pelto, 4,066 ft. N, 491 ft. E of SW cor. Sec. 9-23s-18e ..... Drlg. 3,425 ft.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Turnbull et al's No. 1 Watson, Stephen F. Austin Sur. No. 6, 150 ft. out of SE cor. of 115.6-ac. tract ..... Drlg. sandy shale 4,626 ft.

BRAZORIA COUNTY

Danciger O. & R. Co.'s No. 2 Hunt, 6,550 ft. E line, 5,550 ft. S line, W. Carson Sur. ..... Coring shale 7,919 ft.

CHAMBERS COUNTY

Mills & Jones' No. 1 Gau, John S. Roberts Sur., 255 ft. W, 1,052.72 ft. S of NE cor. 138-ac. tract ..... Coring 5,026 ft.

Smith & Lavender's No. 1 McCormick, F. Ludlow Sur., 150 ft. NE cor. ..... Derrick.

COLORADO COUNTY

Humble O. & R. Co.'s No. 1-B O. M. Powell, 1,399 ft. from S line, 467 ft. from W line of Sec. 45, I.&G. N. Sur. ..... Abd. 6,601 ft.

Humble O. & R. Co.'s No. 1-C Powell, I.&G.N.R.R. Sur., 1,086 ft. E, 578 ft. S of NW cor. Blk. 48 ..... Derrick.

Plymouth Oil Co.'s No. 1 Broussard, 2,200 ft. N and 426 ft. W of SW cor. Sec. 47, I.&G.N. Sur. ..... Drlg. shale 4,605 ft.

Weimar Oil Co.'s No. 1 H. T. Brandt, F. Pettus Sur., 250 ft. from N line, 250 ft. from E line of tract .... Abd. 6,112 ft. in shale.

Weimar Oil Co.'s No. 1 Miller ranch, approx. center H.&T.B. Sur. No. 9 ..... Derrick.

FORT BEND COUNTY

Fresno Oil Corp.'s No. 1 M. T. Wood, T. Gleason Sur., center of 10-ac. tract (Blk. 474) ..... T.D. 4,701 ft.; sidetracked at 2,890 ft.; drlg. 3,350 ft.

GRIMES COUNTY

Cambrian Oil Co.'s No. 1 W. V. Sangster, John Moore Sur., 300 ft. out of most westerly NW cor. of 218-ac. tract ..... Derrick.

Foster et al's No. 1 Quinn, 7,100 ft. from W line, 3,900 ft. from N line of S. F. Austin Sur. ..... Derrick.

Petroleum Southwest Co.'s No. 1 Greer, Pat O'Connor Sur., 200 ft. from W line, 400 ft. from N line of 150-ac. tract ..... Drlg. sand and shale 4,290 ft.

HARRIS COUNTY

Cockburn Oil Corp.'s No. 1 C. Marcus, Wm. Hardin Sur., 1,500 ft. S along E line of 55-ac. tract from Buffalo Bayou and 300 ft. W at right angles ..... Drlg. broken lime 3,783 ft.

Gohlson & Parson's No. 1 W. E. Freeman, 330 ft. SE cor. Sec. 57, Blk. 2, H.&T.C.R.R. Sur. ..... Comp.; abd. 6,690 ft.

H. B. Jordan's No. 1 Cochran, J. L. Jordan Sur., 1,950 ft. S line, 1,930 ft. E line ..... Standing 2,045 ft.

Russell et al's No. 1 Burt & Griffith, S. Keely Sur., 200 ft. N line, 200 ft. E of highway ..... Derrick.

Jack Schultz et al's No. 1 West Prod. Co., Geo. Dedrick Sur., 800 ft. W of R.R., 100 ft. N of S line .... T.D. 3,414 ft.; tested 500 lbs. dry gas in 5 minutes; setting csg. 3,400 ft.

S. J. Sloan's No. 1 Ellis, 658 ft. from N line, 1,130 ft. from W line of Sec. 22, Geo. Ellis Sur. ..... Rig.

Wolfe Oil Co.'s No. 1 Paddock, J. Cunningham Sur., 200 ft. W of E line of Blk. 41 on line dividing Blks. 46 and 47 ..... Derrick.

JACKSON COUNTY

Continental Oil Co.'s No. 1 Vincek, V. Garcia Sur., 1,800 ft. W, 200 ft. N of SE cor. of Lot 17, Bennett Subd. ..... Set 13⅜-in. csg. 1,376 ft.; W.O.C.

JEFFERSON COUNTY

Sun Oil Co.'s No. 1 Paggi, 990 ft. W, 1,610 ft. N of SE cor. of T.&N.O. Sur. No. 32 ..... Drlg. sand 5,546 ft.

LIBERTY COUNTY

Yount Lee Oil Co.'s No. 1 E. W. Boyt, H.&T.C. Sur., Sec. 17, 300 ft. from S line, 2,440 ft. from E line of section ..... Drlg. shale 9,677 ft.

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ALUMINUM TRAILERS SAVE WEIGHT, TIME AND TAXES!

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SEMI-TRAILERS
POLE TRAILERS
BODIES
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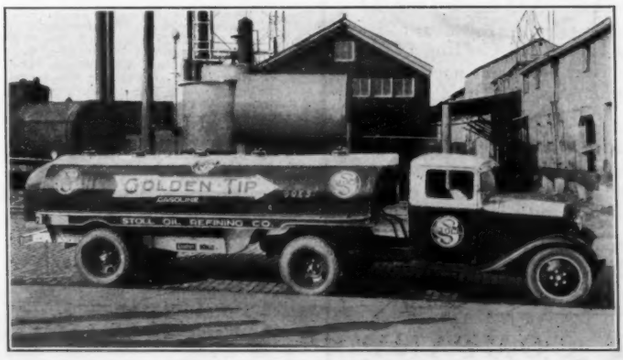

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The Oil Producers have found the Coffing Hoist to be a superior tool for their work on account of its light weight and compactness, and it is easy to operate.

They use them for picking up rod lines to oil wells, skidding engines, boilers and any cumbersome equipment into place, loading trucks, erecting rigs, or wherever a lift or pull is needed.

Capacities from ¾-ton to 6-ton, weights from 14 lbs. to 65 lbs. Prices from $28.00 to $95.00.

Manufactured by

COFFING HOIST COMPANY

DANVILLE, ILLINOIS.

J. K. Seale, tr.'s No. 1 T. W. Finley, A. B. Hardin Sur., 330 ft. out of SW cor. of 25-ac. tract ..... Derrick.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Boker, 400 ft. out of SW cor. Lot 17, Robbins & Middle Subd., J. W. Criswell Sur. ..... Cmtd. 9⅝-in. csg. 5,418 ft.; drlg. plug.

Oils Consolidated, Inc.'s No. 1 Hawkins, Daniel McCarthy Sur., 1,240 ft. NE, 350 ft. NW of S cor. .... Derrick.

United North & South Dev. Co.'s No. 1 Unit 6 (No. 2 Stoddard), 25 ft. each way out of NW cor. of Lot 19, Buckeye Townsite ..... T.D. 7,872 ft.; P.B. to 7,868 ft.

United North & South Dev. Co.'s No. 1 Unit 14 (No. 1 Dr. Plotner), 1,210 ft. SE of No. 1 Stoddard and 136 ft. W of right of way of Collegeport branch of St. L.&B.M.R.R., Buckeye ..... Drlg. shale 7,919 ft.

United North & South Dev. Co.'s No. 1 Unit 25, 1,335 ft. S, 1,000 ft. E of No. 1 Unit 6 ..... Cutting and pulling screen 7,870 ft.

MONTGOMERY COUNTY

McElroy Oil Corp.'s No. 1 McWhorter, T. J. Nichols Sur., 390 ft. N of center of W 1,000 acres of McWhorter's 3,000-ac. farm ..... Drlg. shale 2,195 ft.

POLK COUNTY

C. E. Stewart's No. 1 Stephenson, E. Stevenson Sur. (Abst. 761), 1,633 ft. from N line, 920 ft. from W line of 217 acres ..... Rig.

REFUGIO COUNTY

Humble O. & R. Co.'s No. 8 O'Connor, 13,350 ft. N of S line of lease and 12,727 ft. W of E line of Florentine Rios Sur. ..... Drlg. shale 1,790 ft.

Texas Co.'s No. 1 Rooke, J. M. Aldritte Sur., 7,500 ft. S 53 deg. W, 850 ft. 37 deg. W of N cor. Sur. ..... Derrick.

SAN JACINTO COUNTY

Piedmont Oil Co.'s No. 1 Foster Lbr. Co., 500 ft. out of NW cor. of G. Taylor Sur. ..... Drlg. shale 3,420 ft.

VICTORIA COUNTY

Gulf Prod. Co.'s No. 4 Keeran, Martin DeLeon Sur., 3,320 ft. N 41 deg. 43 min. W, parallel to NE line of lease from No. 1 ..... Drlg. shale 5,830 ft.

Stoneleigh O. & G. Co.'s No. 1 Zimmer, R. Manchola Sur., 1,007 ft. SW line, 645 ft. SE line ..... Drlg. 209 ft.

The Texas Co.'s No. 6-A McFaddin, 5,600 ft. from NE line, 250 ft. from SE line of A. J. Gray ..... Gas sand 3,039-49 ft.; pumping wtr. and mud into sand to kill pressure.

The Texas Co.'s No. 7 McFaddin, 6,600 ft. S 15 deg. W, 450 ft. N 75 deg. W at right angles from the NE cor. of the A. J. Gray Sur. ..... T.D. 1,176 ft; blowing gas and mud.

WALLER COUNTY

Franklin et al's No. 1 A. C. Blumberg, John Baker Sur., 466 ft. out of NE cor. of most northerly 100-ac. tract ..... Set 10-in. 413 ft.

Texas Seaboard Oil Co.'s No. 1 B. Schwartz, Isaac Best Sur., 1,050 ft. from S line, 1,100 ft. from E line of 800-ac. tract ..... Drlg. shale 2,926 ft.

WASHINGTON COUNTY

Clark & Cowden's No. 1 F. A. Ammons, S. Woodward Sur., 16,500 ft. from N line, 775 ft. from E line of survey ..... No report.

George W. Strake's No. 1 Henry Wehmeyer, M. Byrd Sur., 3,000 ft. from W line, 500 ft. from N line of 599.50-ac. tract ..... Drlg. shale 1,474 ft.

WHARTON COUNTY

Boggs & Hammond's No. 1 C. T. Kountze, Morris & Cummings Sur., 1,250 ft. S line, 2,750 ft. E line .... Rigging.

Nabers et al's No. 1 Lurker, 210 ft. out of SE cor. of N½ SW Sec. 58, E.T.R.R. Sur. ..... Washing to bottom 5,026 ft.

Pure Oil Co.'s No. 1 W. Garrett, Sec. 28, 4,456 ft. SE, 1,690 ft. NE of W cor. ..... Rigging.

Pure Oil Co.'s No. 1 A. J. Wilder, T. W. Hurd Sur., 509, 2,575 ft. SE, 1,690 ft. NE from W cor. of Sec. 28. Rigging.

Pure Oil Co.'s No. 1 Stewart, 2,419 ft. NW, 1,650 ft. NE of S cor. of Sec. 25, Morris & Cummings Sur. .... T.D. 8,015 ft.; set whipstock 6,505 ft.; sidetracking 7,352 ft.

Pure Oil Co.'s No. 1 Chas. T. Kuntze, 2,183 ft. from NW line, 467 ft. from SW line, Sec. 27, Morris & Cummings Sur. ..... Coring shale and sand showing oil 6,023 ft.

Pure Oil Co.'s No. 1 W. H. Lancaster, Morris & Cummings Sur., Sec. 23, 1,650 ft. NW, 1,600 ft. SW of E cor. of section ..... Spudding

Pure Oil Co.'s No. 1 Isaac Weaver, J. M. Brownson Sur., Sec. 22, 1,650 ft. out of N cor. of section .... Rigging.

Smith, McDannald and Pure Oil Co.'s No. 1 B. M. Yeamans, 330 ft. out of N cor. of B. M. Yeamans Sur., Abst. 913 ..... Rigging.

Smith & McDannald and Shell Pet. Corp.'s No. 1 Ridgeway, 1,980 ft. from S, 660 ft. from W of NE cor. Sec. 8. H.&T.C. Sur. ..... Drlg. gumbo 7,259 ft.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 52)

SABINE PARISH

A. F. Allen's No. 1 G. W. Belton, NE cor. NW NW Sec. 32-9-13 ..... S.D. fuel 400 ft.

CONVERSE DISTRICT

A. G. Craig's No. 1 Belton, 330 ft. N and E, SW cor. NW NW Sec. 33-9-13 ..... Derrick.

R. L. Gay's No. 1-B Bowman-Hicks, 330 ft. N and E, SW cor. SW NE Section 22-9-13 ..... Recmt. 8-in. 1,844 ft.

Mamie S. Hammond's No. 1 Patrick, 330 ft. N, 2,310 ft. W, SE cor. Sec. 1-9-13 ..... T.A. 3,235 ft.

Helena O. & G. Co.'s No. 1 C. Jackson, 330 ft. S and W, NE cor. SW SW Sec. 10-9-13 ..... Began drlg. Aug. 16; 10-in. 40 ft; drlg. 1,000 ft.

Lambert et al's No. 1 Edwards, 300 ft. S and E, NW cor. SW NW Sec. 29-9-13 ..... S.D. 3,360 ft.

H. C. Lessinger's No. 1 Bowman-Hicks Lbr. Co., 338 ft. S and E, NW cor. SW Sec. 13-9-13 ..... S.D. 3,185 ft.

Joe Modisette's No. 3 Frost Lbr. Industries, 330 ft. S and E, NW cor. NE SW Sec. 16-9-13 ..... S.D.; W.O. 3,190 ft.

C. L. Nixon's No. 1 Patrick, 330 ft. S and E, NW cor. NE SW Sec. 21-9-13 ..... Cmtd. 8½-in. 1,558 ft.

Robertson Drlg. Co.'s No. 1 Bowman-Hicks Lbr. Co., 330 ft. S and E, NW cor. NW NW Sec. 23-9-13... Cmtd. 6⅝-in. 1,564 ft.; T.D. 1,604 ft.

Sabine Royalties Co.'s No. 1 Balew & Carter, 330 ft. N and E, SW cor. NW SW Sec. 21-9-13 ..... Drlg. 750 ft.

E. M. Self's No. 1 G. L. Paul, 330 ft. N and W, SE cor. NE SW Sec. 9-9-12 ..... Drlg. 1,400 ft.

Homer Tyson's No. 1 G. W. Hough, 330 ft. S and E, NW cor. SW NW Sec. 31-9-12 ..... Derrick.

Windsor Oil Co.'s No. 1 Graham, 330 ft. N and W, SE cor. SE NW Sec. 20-9-13 ..... Cmtd. 6⅝-in. 1,557 ft.; drlg. plug; T.D. 1,560 ft.

Arkansas

ARKANSAS COUNTY

Allen & Wright's No. 1 C. P. Trice, SE cor. NW SW SE Sec. 9-2s-3w ..... Derrick.

COLUMBIA COUNTY

C. W. Alworth et al's No. 1 W. D. King, SW cor. SE SW Sec. 16-17-20 ..... S.D. 1,864 ft.

JEFFERSON COUNTY

J. E. Elliott's No. 1 B. V. Nevin, 440 ft. N and E, SW cor. SW NW Sec. 26-4-10 ..... Derrick.

R. V. Harrell et al's No. 1 McGoughey, NW cor. Sec. 22-7-10 ..... S.D. 1,550 ft.

HEMPSTEAD COUNTY

Kentucky O. & G. Co.'s No. 1 Leslie, NW cor. SW NW Sec. 21-9-26 ..... Derrick.

LAFAYETTE COUNTY

Geo. W. Harper's No. 1 Reed-Bodcaw, NW cor. Sec. 16-15-22 ..... Coring 2,275 ft.

LONOKE COUNTY

Joe D. Strahan's No. 1 Hardin, NW cor. NW NW Sec. 18-2s-7 ..... Rig up.

MILLER COUNTY

Duluth-Ark. Oil Co.'s No. 2 Beck, 330 ft. S and E, NW cor. SE SW Sec. 34-15-26 ..... S.D. 500 ft.

Claude English et al's (was Tarkington et al's) No. 1 Gibson, 1,980 ft. N, 660 ft. E, SW cor. Sec. 30-18-27 S.D. 300 ft.

OUACHITA COUNTY

J. D. Reynolds' No. 1 Snow Hill Baptist Church, 525 ft. E, 115 ft. S, NW cor. SE SW Sec. 28-15-15..... Began drlg. Aug. 16; 10-in. 130 ft; drlg. 700 ft.

POINSETT COUNTY

Ark. State O. & G. Co.'s No. 1 fee, C NE NE Sec. 13-11-3e ..... Derrick.

UNION COUNTY

E. R. Henderson's No. 1 Snyder, 400 ft. N, 660 ft. E, SW cor. NE SE Sec. 2-19-15 ..... Coring blue shale 3,080 ft.

NEVADA COUNTY

Longoria et al's No. 1 Dick Gulley heirs, Sec. 3-12-20.... Began drlg. July 5 and S.D.

Mississippi

JONES COUNTY

Snow-Black Pet. Co.'s No. 1 Watson, 600 ft. W, 210 ft. S, center, Sec. 24-7-13 ..... Drlg. shale 2,930 ft.

LAMAR COUNTY

Lamar Oil Co.'s No. 1 Scott, NE NE Sec. 18-2n-14..... S.D. 3,010 ft.

MADISON COUNTY

H. A. Wilson,tr.'s No. 1 Copex, 200 ft. N and E, SW cor. SW NE Sec. 24-9-3e ..... Began Drlg. Aug. 13; drlg. 235 ft.

NEWTON COUNTY

Bob Dalton et al's No. 2 Majura, SE SE Sec. 25-6-11 Rig up.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, Sec. 24-2n-9e, SW cor. SW SE ..... Derrick pattern.

WARREN COUNTY

Kistler & Stivers' No. 1 Blake est., 1,215 ft. NE Blakely Station, Sec. 15-17-5 ..... Drlg. shale and shell 4,300 ft.

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E, CWL, Sec. 14-14-1e ..... Rig up.

Louisiana-Arkansas Proven Areas

North Louisiana

CADDO—BETHANY

Company, well, farm name, section and block—	Remarks:
Tom Collins Pet. Co.'s No. 1 Gill & Lipscomb, 660 ft. N, 1,506 ft. E, SW cor. Sec. 17-16-16	Derrick.

CADDO PARISH—BLANCHARD

Calatex O. & G. Co.'s No. 1 G. M. Agurs, Sec. 9-16-16 .... Drlg. lime 2,990 ft.

CADDO—RODESSA

Ark. La. P. L. Co.'s No. 1 Williams & Windham, Sec. 4-22-16, 560 ft. S, 660 ft. E, NW cor. NE NW ..... Cmtd. 7-in. csg. 5,517 ft.

United Gas Public Service Co.'s No. 1 Festervan, Sec. 23-23-16, 1,980 ft. N, 1,320 ft. E, SW cor. ..... Drlg. anhydrite 4,972 ft.

DE SOTO PARISH

Tom McKinney et al's No. 1 J. M. Nabors, 330 ft. N and E, SW cor. SE SE Sec. 24-12-12 ..... Rig up.

MOREHOUSE PARISH

United Gas Public Service Co.'s No. 29 Crossett Lbr. Co., 661 ft. E, 660 ft. N, SW cor. SW SW Sec. 17-22-5 ..... Rig up.

United Gas Public Service Co.'s No. 30 Crossett, Sec. 25-22-4e ..... Cmtd. 6⅝-in. 2,168 ft.; used acid 2,216 ft.; arranging test.

United Gas Public Service Co.'s No. 2 Patton, 3,375 ft. S, 2,917 ft. E, NW cor. Sec. 12-20-11 ..... Waiting on gauge; T.D. 2,212 ft.

OUACHITA PARISH

Century Carbon Co.'s No. 3 McGee, 220 ft. S, 4,667 ft. E, NW cor. Sec. 10-18-4 ..... Cmtd. 6-in.

RED RIVER PARISH

E. M. Thompson's No. 1 T. J. Crichton, SW SE Sec. 17-13-10 ..... S.D.; repairs 1,485 ft.

SABINE PARISH—ZWOLLE

Baird Bros.' No. 1 Trammell, 600 ft. N, 330 ft. W, SE cor. NE Sec. 30-8-11 ..... Waiting for 6⅝-in. to set at 2,485 ft.

J. C. Chandler's No. 1 Rains, SW cor. NW Sec. 14-7-11 Began drlg. Aug. 21; 10-in. 42 ft.

Cummings Oil Co.'s No. 1 T. M. Phillips, 330 ft. N, 462 ft. W, SE cor. NE ..... Drlg. 2,300 ft.

Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12 ..... Derrick.

Feazell & Davenport's No. 1 Aaron, 250 ft. S and E, NW cor. Sec. 32-9-13 ..... Washing to bottom; T.D. 1,923 ft.

P. A. Flannery's No. 1 Stille, 620 ft. W, 205 ft. N, SE cor. NE SW Sec. 35-8-13 ..... Drlg. 1,820 ft.

Investors Prod. Co.'s No. 1 S. J. Williams, 600 ft. E and S, NW cor. Sec. 24-7-11 ..... W.O.S.R. 2,805 ft.

T. E. Kelly's No. 1 McClanahan, 1,000 ft. S, 330 ft. E, NW cor. SW NW Sec. 36-8-11 ..... S.D.; repairs 1,230 ft.

Lowery & Green's No. 1 Adair, 330 ft. N and W, SE cor. SE SW Sec. 19-8-11 ..... S.D. 1,000 ft.

Pelican Nat. Gas Co.'s No. 24 La. Long Leaf Lbr. Co., 330 ft. N and E, SW cor. Sec. 5-7-11..... Began drlg. Aug. 16; 10-in. 66 ft.; drlg. 1,823 ft.

H. C. Pitts' No. 1 Trammell 330 ft. N and E, SW cor. NW NE Sec. 5-7-11 ..... Derrick.

Rig Oil Co.'s No. 1 Walden, 330 ft. N and E, SW cor. NW NE Sec. 28-8-11 ..... Derrick.

Ben F. Smith's No. 5 Turner, 330 ft. N, 723 ft. W, SE cor. N½ NW Sec. 4-7-11 ..... Cmtd. 6-in. on top marl 2,154 ft.

L. J. Tillery's No. 1 Sabine Lbr. Co., 800 ft. S, 220 ft. W, NE cor. Lot 3, La. Nava grant, Sec. 5-7-11..... Location.

H. Tuttle's No. 4 Byrd, 800 ft. S, 920 ft. E, NW cor NW NW Sec. 7-7-10 ..... Derrick

Mississippi

HINDS COUNTY

Atkins & Hightower's No. 1 Woodland Hills, 400 ft. W, 427 ft. N, SE cor. NW NE Sec. 26-6-1e ..... Cmt. 8-in. 770 ft; drlg. 2,150 ft.

RANKIN COUNTY

Jas. A. Alexander, tr.'s No. 2 Love Pet. Co., 720 ft. S, 63 ft. E, C Sec. 36-6-1e ..... Rig up.

J. A. Alexander, tr.'s No. 1 Love Pet. Co., 600 ft. W, 240 ft. S, NE cor. NW NE Sec. 1-5-1e ..... Drlg. sand 2,195 ft.

Jas. A. Baker et al's No. 1 Hawkins, 440 ft. E, 523 ft. N, SW cor. SE SW Sec. 31-6-2e ..... Derrick.

Ferguson, Fuller & Metz' No. 1 Ammons, 350 ft. E and S, NW cor. NW NW Sec. 35-3n-3e .. .. Derrick.

Muse & Muse's No. 1 Carlton, Sec. 13-5n-1e, 650 ft. E, 725 ft. N, SW cor. ..... Cmtd. 6-in. 2,407 ft.

EAST TEXAS (Border Counties)

MARION COUNTY

Terry et al's No. 1 E. B. Colgin, 300 ft. N and E, SW cor. Martin Noll Sur. ..... Derrick.

PANOLA COUNTY

W. H. Nichols et al's No. 1 S. W. Ray, 330 ft. S of N line, 330 ft. W of E line, W. P. Culver Sur. ..... Derrick.

M. H. Robbins et al's No. 1 Aizee Williams, 165 ft. N and E, SW cor. 30-ac. tract in Winnie Mann Sur. .. Derrick.

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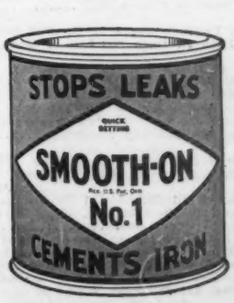

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Do it with SMOOTH-ON

Wildcat Operations in Southwest Texas

(Continued from Page 53)

A. M. Blume's No. 1 Ridder, 300 ft. from W line, 1,000 ft. from N line of tract in Sur. No. 58, County Blk. 1,596 ..... T.D. 581 ft.; drlg.

Dingman's No. 1 Cassin, 175 ft. from N, 120 ft. from W line of 1,250-ac. tract in Rodriques Sur. ..... T.D. 1,473 ft.; top Edwards; coring.

Austin Hull's No. 1 Classen, 268 ft. from W line, 2,500 ft. from S line of tract, 12 miles N of San Antonio.. T.D. 1,810 ft; trying to run csg.

LaSalle Oil Co.'s No. 1 City Sewage farm, 150 ft. S of Rilling Road, 450 ft. W of NE cor. of tract in D. Bustillos Sur. ..... T.D. 75 ft.; drlg.

M. L. Howard's No. 1 James Watson, 500 ft. from W line, 2,000 ft. from S line, Sec. 16, B. Martinez Sur., 12 miles S from San Antonio ..... T.D. 2,535 ft.; abd.

C. J. LeCompte's No. 2 R. Diaz, 150 ft. from S and E lines of 30-ac. tract, Diaz farm lots, Nos. 1 and 2.. T.D. 1,450 ft.; drlg.

C. J. LeCompte's No. 4 R. Diaz, 324 ft. NE of No. 1.... T.D. 320 ft.; S.D.

Motes-Campbell's No. 1 Pruitt, 550 ft. NE of Trussells' No. 1 Pruitt, 54 varas from E line of tract in Samuel McCullough Sur. ..... T.D. 1,065 ft.; S.D.

Motes-Campbell's No. 1 Stumberg, 990 ft. from N line, 450 ft. from W line of F. Rolen Sur. No. 48 ..... T.D. 1,135 ft.; pumping.

Motes-Campbell's No. 2 Stumberg, 450 ft. from N line, 450 ft. from W line of S. Stumberg 140-ac. tract in F. Rolen Sur. No. 48 ..... T.D. 400 ft.; set 8-in. csg.

George L. O'Neill's No. 1 Neimann in Juan Montez Sur. No. 6 ..... T.D. 260 ft.; drlg.

Fred Perrenot's No. 1 Ruiz, SE cor. of 32-ac. tract in F. Rowland (Rolen) Sur. No. 48 ..... T.D. 600 ft.; to set 8-in. csg.

H. A. Pagenkopf's No. 1 G. A. Goeth, 500 ft. from SE line, 600 ft. from SW line which is San Antonio River, Juan Montez Sur. ..... T.D. 960 ft.; resumed drlg.

Earl A. Post's No. 3 J. F. and F. X. Bilharts, 150 ft. from N and E lines of S 200 acres of 385-ac. tract in F. Boles Sur. ..... Moving in rig.

Roe & Day's No. 2 City Nat'l. Bank, 150 ft. from N and W lines of tract in I. Perez Sur. No. 15 ..... T.D. 200 ft.; drlg.

O. L. Ray's No. 1 Thos. Dillon, 3,500 feet from NW line, 1,750 ft. from most southerly SW line of de Luna grant in southern part of county ..... T.D. 680 ft; standing.

C. A. Smith's No. 1 Palfrey ..... Showing some oil

C. A. Smith's No. 1 Henry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garza grant ..... T.D. 480 ft.; drlg.

F. E. Tegler's No. 1 Brackenridge, 578 ft. from S line, 2,284 ft. from W line of tract in Maria Gertrudis de Alanis Sur. ..... T.D. 1,110 ft.; drlg.

BLANCO COUNTY

Blanco Development Co.'s (McGee) No. 1 A. J. Dittmar, 1,320 ft. from S line, 150 ft. from W line of George Evans Sur. No. 58, 4 miles NW of Johnson City ..... T.D. 650 ft. in lime; fishing.

Isham et al's No. 1 Lester ranch, 200 varas from N and E lines of Antonio Bandrand Sur., 8 miles NE from Johnson City ..... T.D. 122 ft. in lime; drlg.

CALDWELL COUNTY

Judge R. L. Batts' No. 2 Roebuck, 2,400 ft. from NE line, 1,200 ft. from SE line of tract in Arthur Swift Sur. ..... T.D. 2,158 ft.; running csg.

Cargill et al's No. 1 Brown, 1,600 ft. from E line, 330 ft. from S line of C. E. Brown 112-ac. tract, Dillard Cooper Sur. ..... T.D. 2,351 ft.; Edwards lime; sulphur wtr.

E. L. Hope and Joe Cole's No. 1 Mike August, 150 ft. from NE line, 165 ft. from NW line of tract ..... T.D. 1,900 ft.; drlg.

F. L. Thomson's No. 2 Lawler, 150 ft. from NW line, 450 ft. from SW line of road in J. H. Lawler 134-ac. tract in James Berry Sur. ..... Moving in mach.

DE WITT COUNTY

C. B. Bunte, Inc.'s No. 1 Emil Buckhorn, SE cor. of 120-ac. tract in Andrew Lockhart Sur., 2 miles SW from Lindeneau ..... Moving in rig.

L. G. Wade's No. 1 fee, 6 mi. S from Yoakum, 520 ft. from NW line, 160 ft. from SW line of 35-ac. tract in Lavina Dunbar Sur. ..... T.D. 2,257 ft.; S.D.

DIMMITT COUNTY

Ed Anglin's No. 1 Dr. A. J. Fitch, 930 ft. from NW line, 2,100 ft. from SW line of Sec. 4 in F. Proctor Sur. ..... T.D. 1,150 ft.; running 6⅝-in. csg.; flowing S.W.

DUVAL COUNTY

T. J. Conway and C. A. Campbell's No. 1 W. K. Hoffman, 300 ft. from NW line, 1,650 ft. from NE line of Sur. No. 114 ..... T.D. 2,485 ft.; drlg.

DeSoto Oil Co.'s No. 2 Wood-Welder, 660 ft. E of No. 1 (950 ft. from N line, 2,640 ft. from W line of Sur. No. 211 ..... T.D. 2,310 ft.; tested S.W.; D.D.

O. W. Killam's No. 1 Wood-Welder, 9,260 ft. from E line, 3,540 ft. from S line of Sur. No. 102 ..... Rigging up.

S. S. & H. Oil Co.'s No. 1 Hunter, 330 ft. W of CEL of J. Poitevant Sur. No. 515 ..... T.D. 1,965 ft. in Jackson.

Whitting's No. 1 Duval County Ranch Co., 1,511 ft. from S line, 2,143 ft. from W line of Blk. 21, of Sur. No. 196 ..... Spudded in.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Frank Doering, 34 ft. from W line, 1,700 ft. from S line of Tract No. 7 in Maria Louisa Carranza Sur. No. 302 ..... T.D. 3,236 ft; drlg. hard sandy lime.

J. E. Greenlee's No. 2 Burns, 150 ft. from W line, 1,800 ft. from S line of SE of 160-ac. tract, Castro Sur. No. 123 ..... T.D. 2,338 ft.; cored shale 2,332-38 ft.

GILLESPIE COUNTY

Powers et al's (Nixon-Dore) No. 1 Andrew Lindig, 18 mi. E of Fredericksburg ..... T.D. 1,025 ft.; shale.

GOLIAD COUNTY

Gillette Oil Co.'s No. 1 Lackey & Weldon, 1,730 ft. from NE line, 2,700 ft. from SE line of 1,000-ac. tract, Navarro Gomez Sur. ..... T.D. 4,101 ft.; abd.

GUADALUPE COUNTY

Clint Lanier's No. 1 L. D. Hill, 450 ft. from NW line, 1,450 ft. from NE line of George Allen Sur. ..... T.D. 503 ft. in shale.

HIDALGO COUNTY

Carl & Johnston's No. 1 Doughty, 187 ft. from S and E lines of Lot 11, Blk. 5 of Subd. of Indios Ranch Sur. in N. Hidalgo ..... T.D. 3,040 ft.; S.D.

Chancellor & Hall's No. 1 Garcia Land & Cattle Co., 150 ft. from W line of Porcion 42 and 150 ft. N of old Military Highway ..... T.D. 3,187 ft.; showing oil; setting csg.

Maxwell & Young's No. 1 King, 175 ft. from N and E lines of Lot 8, Blk. 16, Alamo tract ..... T.D. 875 ft.; drlg.

JIM HOGG COUNTY

Brooklyn Oil Co.'s No. 1 De La Garza, 660 ft. from N and W lines of Blk. 87 of Pippins Subd. of Randado Grant Sur. ..... Rigging up.

Cole Pet. Co.'s No. 1 Vela and Pena Bros., 320 ft. from W line and on line between Blks. 80 and 81, White Subd. of Share 3, Sur. 558, of El Peyote grant ..... T.D. 2,664 ft.; drlg. hard rock.

D. C. DeWitt's No. 1 A. G. Lopez, 3,475 ft. from W line, 425 ft. from N line of Sur. No. 106 ..... T.D. 1,662 ft.; on bottom ready to resume.

R. F. Force's No. 1 Holbien, 150 ft. from N and W lines of Blk. 54, Sec. 9 of Holbien Sur. of Share 3 of Las Animas grant ..... T.D. 3,160 ft.; standing.

KERR COUNTY

J. E. Anderson's No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,923, in Hamilton Sur., 4 miles S of Center Point ..... T.D. 1,800 ft.; black shale.

W. E. Clark's No. 1 Love, 660 ft. from N and W lines of Mrs. Cassandra Winn Sur. No. 1,759 ..... Rigging up.

Evans & Gant's No. 1 Love, 660 ft. S of S line of Sur. 1,597, 1,320 ft. from W line of Sur. 1,594 ..... T.D. 4,060 ft.; rigging up to deepen.

KENDALL COUNTY

E. W. Martin's No. 1 Houston, in F. Wright Sur. ..... T.D. 1,005 ft.; blue shale; side-tracking bailer.

LA SALLE COUNTY

Pacific Gulf Oils and C. B. Bunte's No. 1 Lastinger, C of NE of Sec. 507 ..... Ready to spud in.

W. H. Wallace's No. 1 H. C. Yeager, 150 ft. from S and E lines of Sur. No. 95 ..... T.D. 1,500 ft.; drlg.

LIVE OAK COUNTY

Coquat, O'Neill & Phillips' No. 3 Sanger, 2,930 ft. from SW line, 330 ft. from SE line of Sur. No. 350..... T.D. 1,100 ft.; drlg.

J. H. Durbin's No. 2 Marbach, 1,000 ft. from S line, 3,200 ft. from W line of S. Hays Sur. ..... T.D. 900 ft.; S.O. in Pettus sand.

Holland Oil Co.'s No. 1 T. J. Lynn, 175 varas from E line, 54 varas from N line of 272-ac. tract in Sur. No. 171 ..... Derrick.

Sheldon & Snider's No. 1 E. Terrell, 1,000 ft. from S and E lines in E. Jurdin Sur. ..... T.D. 1,093 ft.; reaming to test.

MAVERICK COUNTY

Wright & Stroman's No. 1 DeBona, SE cor. of No. 1.... T.D. 740 ft.; moved off Ry. to new location.

McMULLEN COUNTY

John V. Edwards' No. 1 J. T. Brown, 150 ft. from river, 150 ft. from NW cor. of Brown tract, E from Calliham ..... T.D. 900 ft.; S.D.

French Oil Corp.'s No. 1 Two Rivers Ranch, 330 ft. from N, 1,650 ft. from W line of 640-ac. tract in Sec. 66 ..... T.D. 1,048 ft.; top of Mirando sand; S.W.

McDowell & Vierson's No. 1 Jefferson, 330 ft. from N, 990 ft. from W line of 640-ac. tract in Sur. No. 92.. Spudded in.

Shumway et al's No. 3 Shiner, 4 miles SE from No. 2 Shiner, 1,730 ft. from S line, 167 ft. from W line of Steinhardt Sur. No. 190 ..... T.D. 2,502 ft.; abd.

S. R. & C. Oil Corp.'s No. 1 Reeves, 1,650 ft. from S line, 330 ft. from E line of Francis Smith, No. 4 Sur. ..... T.D. 1,890 ft.; drlg. hard rock.

J. S. Suttle's No. 1 Lark, 150 ft. from N and W lines of Blk. 16, in E. W. B. Scrugham Sur. ..... T.D. 1,030 ft.; set csg.

Whisenant & Trenchard's No. 1 Martin, 990 ft. from NE line, 330 ft. from SE line of Sur. No. 138 ..... Spudded in.

MILAM COUNTY

Ed Clark et al's No. 1 Thomas Graves, 250 ft. from SW and NW lines of Jackson Hall Sur. ..... T.D. 802 ft; standing.

Clark et al's No. 1 Hoppe, 450 ft. from NE line and 450 ft. from SE line of E. Hoppe 80-ac. tract in Juan Jose Acosta Sur. ..... T.D. 520 ft.; standing.

SAN PATRICIO COUNTY

George W. Scruggs' No. 1 Collins, 1,040 ft. from NE line, 700 ft. from SE line of Blk. 36, E. J. McGloin Sur. ..... T.D. 2,756 ft; changing to heavier rig.

STARR COUNTY

B.&B. Oil Co.'s No. 1 Crown Brick & Tile Co., 1,800 ft. S of State Highway No. 4 and 580 ft. from W line of Porcion 87, near La Puerta ..... T.D. 4,560 ft; fishing.

W. P. Chancellor's No. 1 A Guerra, 26,000 ft. from S line, 2,600 ft. from E line of Share No. 6 of San Jose Grant Sur., NE cor. of county ..... T.D. 2,640 ft.; drlg. sand 2,487-94 ft.; S.W.

F. R. Cooper's No. 1 J. M. Martinez, 150 ft. to S and E lines of A.B.&M. Sur. No. 135 ..... T.D. 3,193 ft.; standing.

Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE NW of Sur. No. 344 .. T.D. 2,350 ft.; drlg.

Goodwin & Yantis' No. 1 Kelsey Bass, 150 ft. from S and E lines of Blk. 8, Coast O. & G. Subd. of Secs. 2 and 3, Porcions 86-87 ..... Rigging up for 3,500-ft. test.

Goodwain & Yantis' No. 1 Seabury, 150 ft. from S and W lines of Sec. 107, Share No. 1, Porcion No. 107.... T.D. 2,095 ft.; drlg.; depth reported an error.

R. D. Perkins & Hoffman's No. 1 E. A. Peffler, 3,090 ft. from W line, 2,480 ft. from S line of Sur. 933.. Derrick; moving in machinery.

W. R. Shankle's No. 1 Garcia, 150 ft. from SW and NW lines of Blk. 33, Subd. N of Porcion No. 90.... Rigging up.

TRAVIS COUNTY

Franklin et al's No. 1-A Reimers, 1,200 ft. from SE line, 1,600 ft. from most southerly SW line of Sur. No. 35 ..... T.D. 461 ft.; S.D. in shale.

Holdin's No. 1 D. V. Collins, 6,192 varas from SE line, 10,440 varas from SW line of Santiago de Valle Grant Sur. ..... T.D. 865 ft; top Edwards 710 ft; fresh wtr.

Watson, Johnson & Brady's No. 2 Brady ..... T.D. 1,123 ft.; rigging up 4-in. csg.

Weaver & Osborn's No. 1 Will Reinhardt, 300 ft. from NW line, 1,200 ft. from NE line of Will Reinhardt 100-ac. tract in William Lewis, Jr., Sur. 2.... T.D. 30 ft.; spudded in.

UVALDE COUNTY

Evans & Thompson's No. 1 Farris, 400 ft. from S and W lines of 535-ac. tract near center of John J. Hammond Sur. ..... T.D. 460 ft.; in chalk.

John Roberts' No. 3 Kincaid ..... T.D. 585 ft.; sanding.

WEBB COUNTY

Danvers & Harrison's No. 1 Benavides, 2,490 ft. from E line, 2,497 ft. from S line of Sur. No. 669 ..... T.D. 2,100 ft.; drlg.

Edwin M. Jones' No. 2 Callaghan, 330 ft. from S and E lines of C.C.S.D.&R.G.N.G. R.R. Sur. No. 1,211.... Rigged up and standing.

Merle Gunby's No. 1 A. M. Bruni, 1,252 ft. from W line, 328 ft. from S line of Sur. No. 857 ..... Spudded in with spudder.

Grey Oil Corp.'s No. 1 A. S. Billings, 2,310 ft. from N line, 330 ft. from W line of Blk. 1, C.C.S.D.&R.G. N.G. Sur. No. 13 ..... T.D. 1,720 ft.; coring.

Will Ohlhausen's No. 1 Moses Jones, 273 varas from E line, 514 varas from S line of 100-ac. tract in Sur. No. 1,640 ..... T.D. 850 ft.; standing.

Washabaugh & Roberts' No. 1 Bruni, 1,170 ft. from NE line, 150 ft. from NW line of E½ of 160-ac. tract in Sur. 139 ..... T.D. 2,140 ft.; standing.

WILLIAMSON COUNTY

Alexander Drlg. Co.'s No. 1 J. & G. Kreig ..... T.D. 800 ft.; drlg.

Wilson, Worley & Moore's No. 1 Mrs. M. E. Olive ..... T.D. 41 ft.; set 10-in. surface csg.

R. S. Wilson's No. 1 Ritchey, 1,200 ft. from SE line, 200 ft. from NE line of F. B. Ritchey 98-ac. tract in Simon Miller Sur. ..... T.D. 2,250 ft.; abd.

ZAPATA COUNTY

J. C. Charver's No. 1 Bustamente, 330 ft. from N and E lines of 24-ac. tract in Share 24 of Las Comitas grant ..... T.D. 725 ft.; drlg.

Hamilton, Brower & Crow's No. 1 Slator, 2,111 ft. from SW line, 1,980 ft. from SE line of Blk. 1, Subd. of Slator ranch in J. V. Borrego grant ..... T.D. 1,069 ft; standing.

Circle W. Oil Co.'s No. 1 M. Garza est., 623 ft. from NW line and 699 ft. from SW line of Blk. 30, C. A. Douglas Subd. of Charco de la India grant ..... T.D. 200 ft.; drlg.

J. P. Doyle's No. 1 I. Ramires, 150 ft. from NW and SW lines of Blk. 15, Share 1, Porcion 18 ..... Spudded in and S.D.

Sarah Poppas' No. 1 Juan V. Cueller, Jr., 150 ft. from NE and SE lines of Blk. 3, Sur. 2 of Poppas Subd. of Por. 34 ..... T.D. 812 ft.; drlg.

A. C. Savey et al's No. 1 Flores, 150 ft. from NW line, 206 ft. from NE line of Blk. 8, Share 1 of P. A. Richer Subd. of Porcion No. 36 ..... T.D. 2,404 ft; standing.

Stevens & Brown's No. 1 Alexandro Garcia, 660 ft. from SW line, 660 ft. from NW line of Blk. 6, Stevens & Brown Subd. of W 700 acres, Charco Redondo grant, A. Garcia tr. 16 miles SE of Zapata ..... T.D. 1,250 ft; standing.

Arthur H. Wray's No. 1 Gopher Trust Est., 300 ft. from NW line, 1,020 ft. from SW line, Blk. 14, Sur. 1, Fullerton Subd., Share 8, in J. V. Borrego Grant Sur. ..... T.D. 1,014 ft.; drlg.

ZAVALA COUNTY

Zavala O. & G. Co.'s No. 1 Gates, 1,320 ft. from N line, 1,320 ft. from E line of Hooper & Wade Sur. No. 13.. T.D. 6,054 ft; hole cleared; standing.

Southwest Texas Proven Areas

Week Ending August 26

CEDAR CREEK POOL—BASTROP COUNTY

Company, well, farm name, section and block—	Remarks
Marts & Beavens' No. 3 Reyes, 754 varas from NW line, 1,300 varas from SW line of Addison Litton Sur. No. 1	Set 1 joint surface csg.
Marts & Bevens' No. 2 Reyes, 754 varas from NW line, 1,300 varas from SW line of Addison Litton Sur.	T.D. 1,706 ft; comp. 150 bbls. dly.
Joe Mills' No. 1 Noss, 400 ft. to E line, 150 ft. S of 78-ac. tract in Addison Litton Sur.	T.D. 1,778 ft.; setting csg.

NORTH DALE POOL—BASTROP COUNTY

Chiquita Oil Co.'s No. 2 M. I. Harris, 300 ft. NW of No. 1, J. Maxmillan Sur.	T.D. 2,175 ft.; two treatments of acid; C.O.
Mart & Bevens' No. 1-A Riddle, 200 ft. from NW line, 190 ft. from SW line of 76-ac. tract in Maxmillian Sur.	T.D. 2,310 ft.; abd.
Mart & Bevens' No. 2-A Riddle, 76-ac. tract, 200 ft. from SW line, 180 ft. from NW line of 76-ac. tract in Maxmillian Sur.	T.D. 2,234 ft.; comp. 50 bbls. dly.
Ogden & Reed's No. 1 Spradlin, 300 ft. from S line, 200 ft. from E line of 113-ac. tract in Grey Sur.	Rigged up; standing.

RIDDLE POOL—BASTROP COUNTY

Floyd Dodson's (and Muckelroy) No. 1 Duran, 45-ac., 300 ft. from NE line, 1,440 ft. from SE line of 100-ac. tract, Flynt Sur.	T.D. 2,424 ft.; S.D.
Ogden & Reed's No. 1 Talley, 150 ft. from NW line, 1,350 ft. from SW line of John Maxmillan Sur.	T.D. 2,127 ft; treated with 3 drums acid; standing.
Ogden & Reed's No. 1-A C. L. Riddle, 1,225 varas from NE line, 288 varas from NW line of Maxmillian Sur.	T.D. 2,276 ft; pumped 1 bbl. dly; to treat with more acid.

PETTUS POOL—BEE COUNTY

Mauldin's No. 4 fee, 420 ft. NE of No. 3, ⅛ mile S from Pettus townsite	T.D. 3,880 ft.; drilled plugs.

ECKERT POOL—BEXAR COUNTY

Gatlin Oil Co.'s No. 16 I. A. Beck, 300 ft. from NW of No. 2 Beck	T.D. 708 ft.; set csg.
J. F. Harrison's No. 1 F. Gembler, 150 ft. from NW line, 460 ft. from NE line of 88-ac. tract in J. Montez Sur.	T.D. 435 ft.; resumed drlg.

WEBSTER POOL—CALDWELL COUNTY

C. J. Webster Oil & Gas Co.'s No. 2 Fulps, 150 ft. from E line, 225 ft. from S line of tract in John A. Neill Sur.	Starting to drill below surface csg.

NORTH KOHLER POOL—DUVAL COUNTY

Allen & Morris' No. 1 G. W. Sutherland, 165 ft. from N line, 165 ft. from W line, SW NE of Sur. 188	T.D. 2,700 ft.; drlg.

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Central Producers, Inc.'s No. 7 Tuck & Johnson, 330 ft. from S and W lines of SE SW of Sur. No. 42	Rigging up.
A. L. Edington's No. 2 Lundell, 200 ft. from N and E lines of S½ SE Sec. 48	Spudded in.
Hester Bros.' No. 1 fee, 330 ft. from S and E lines of NE of Sur. No. 47	T.D. 200 ft.; fooling around.
Humble O. & R. Co.'s No. 11 Hahl, 990 ft. from N line, 330 ft. from W line (most southerly of N line and westerly of W line) in Sur. No. 74	Set surface csg.
Humble O. & R. Co.'s No. 1 Duval County Ranch Co., 330 ft. from S and W lines of NW cor. Sur. No. 362	Rigging up.
Humble O. & R. Co.'s No. 10 Hahl, 330 ft. from most southerly N and W lines of Sur. No. 74	T.D. 2,304 ft.; comp. 40 bbls. hrly.
Navarro Oil Co.'s No. 16 Hahl, 3,630 ft. from S line, 330 ft. from E line of W½ of Sur. No. 360	T.D. 2,285 ft.; set csg.; W.O.C.
Reynosa Oil Corp.'s No. 2-B Duval County Ranch Co., 330 ft. from N and E line of E½ SE of Sur. 363	T.D. 2,100 ft.; drlg.
Reynosa Oil Corp.'s No. 2-A Duval County Ranch Co., 330 ft. from S and W lines of N½ of SW of Sur. No. 362	T.D. 2,255 ft.; set csg.; W.O.C.
Smith & Storey's No. 4 Lundell, 150 ft. from S and E lines of SW of NE in Sur. No. 48	T.D. 2,282 ft.; swabbing.

SARNOSA POOL—DUVAL COUNTY

L. W. Capps' No. 6-A Duval County Ranch Co., 330 ft. from SW line, 1,320 ft. from NW line of W¼ of Sur. No. 574	Rigging up.
Sun Oil Co.'s No. 6 Cuellar, 720 ft. from SW line, 330 ft. from SE line of E¼ of Sur. No. 576	T.D. 2,391 ft.; set csg.; W.O.C.
Texas Co.'s No. 4 W. C. Riggs, 990 ft. from S line, 330 ft. from E line of E½ of NW of Sur. No. 46	T.D. 2,250 ft.; drlg.
Texas Co.'s No. 4-A Duval County Ranch Co., 330 ft. from SE line, 413 ft. from SW line of N¼ of Sur. No. 574	T.D. 2,483 ft.; running liner.

SANDIA POOL—JIM WELLS COUNTY

Crude Oil Royalty Co.'s No. 1 Allen, 150 ft. from N and E lines of Blk. 2, Subd. of Wade ranch	T.D. 2,648 ft.; 6⅝-in. csg. on ground ready to run.

NORTH PETTUS POOL—KARNES COUNTY

Begol Oil Co.'s (Gulf Coast Oil Co.) No. 6 McKinney	T.D. 3,663 ft.; drlg. plugs.
Magnolia Pet. Co.'s No. 2 Porter-State, 689 ft. E of No. 1 Porter, 24 ft. from W line, 1,650 ft. from S line in M. A. Porter Sur.	T.D. 980 ft.; drlg.

JACOB POOL—McMULLEN COUNTY

Loma Oil Co.'s No. 15-A Jacob, 660 ft. N of No. 14 Jacob	T.D. 950 ft.; set csg.; drill in Saturday.
Longhorn Oil Co.'s No. 3-A Lark, 450 ft. from N line, 150 ft. from W line of Blk. 14, of Subd. of Lark land in E. W. B. Scrugham Sur.	T.D. 800 ft.; drlg.
Kennon & Stephenson's No. 1 Lark, 150 ft. from N and W lines of Blk. 15, subd. of Lark land in E. W. B. Scrugham Sur.	T.D. 1,033 ft.; set csg.; W.O.C.

KING POOL—NUECES COUNTY

John F. Camp's No. 1 King, 150 ft. from N and W lines of E½ of Sec. 29, of Richard King Subd.	T.D. 6,014 ft.; abd.

MATHIS POOL—SAN PATRICIO COUNTY

Geo. W. Scruggs' No. 1 Collins	T.D. 2,756 ft.; changed to heavier rig.

CUEVITAS POOL—STARR COUNTY

Sun Oil Co.'s No. 2-A Guerra, 1,980 ft. from N and W lines of Las Cuevitas Sur.	Rigging up.
Sun Oil Co.'s No. 1-C Guerra, 4,861 ft. from NW line, 660 ft. from NE line of La Sactosa grant	T.D. 3,190 ft.; P.B. to 2,180 ft.

LAUREL POOL—WEBB COUNTY

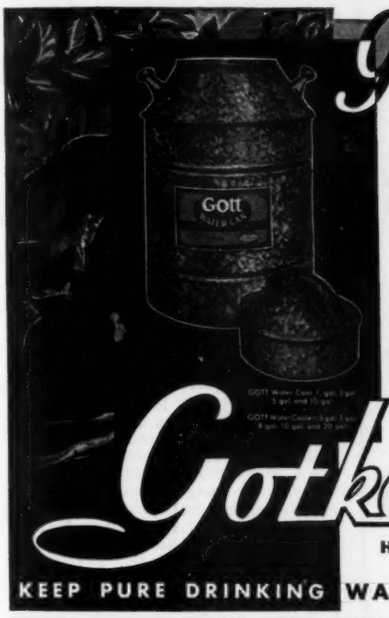
M. Stein's No. 2 Garcia-Villareal, 300 ft. from NW line, 810 ft. from SW line of SW SW of Sur. 720	Dup. of Teagle's No. 2 Garcia-Villareal.
Smith & Storey's No. 2 Sarah Lloyd, 79 ft. from E line, 150 ft. from S line of Blk. 14, Sur. No. 23	T.D. 1,900 ft.; drlg.

MOCA POOL—WEBB COUNTY

Moca Oil Co.'s No. 6 Duval County Ranch Co., 1,360 ft. from N line, 320 ft. from W line of Blk. 33, of Zapata County School Land Sur.	Moving in rig.

JENNINGS POOL—ZAPATA COUNTY

United Prod. Corp.'s No. 11 Measles, 3,483 ft. from NW line, 16,500 ft. from SW line of Cerrito Blanco grant	T.D. 719 ft.; drlg.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Louisiana-Arkansas Fields

(Continued from Page 52)

Parish, an old well at Keatchie being drilled deeper, was dry at 2,470 feet and is waiting orders. Old total depth was 2,295 feet. Morehouse Parish's deep test, H. G. Samson's No. 1 Barnes and Sullivan, NE SW Section 12-21-7, was drilling at 2,754 feet. J. B. Oil Co.'s No. 1 Hankins and others, Section 67-10-7, Natchitoches Parish, has derrick down with drill stem stuck in the hole, total depth 850 feet.

Feazel and Davenport's No. 1 Aaron, NW NW Section 32-9-13, a wildcat in the Converse area of Sabine Parish, inactive for the past four months, is washing to bottom, total depth 1,923 feet. Mamie S. Hammonds' No. 1 Patrick, SE SE Section 1-9-13, is temporarily abandoned at 1,884 feet while the rig is being used to drill a Webster Parish wildcat. Lambert and others' No. 1 Edwards, SW NW Section 29-9-13, a mile southwest of production, failed to produce results after a shot of acid at 3,328 feet and was shut down at 3,360 feet—about as deep as any Converse well has gone except for R. L. Gay's deep test, which is shut down below 7,000 feet. Another test in Converse territory that has failed to produce is H. C. Lessenger's No. 1 Bowman-Hicks, SW SW Section 13-9-13, which is shut down at 3,185 feet.

Pelican Natural Gas Co.'s No. 23 Louisiana Long Leaf Lumber Co., SW SE Section 29-8-11, Zwolle district of Sabine Parish, wouldn't flow and is shut down for standard rig at 2,502 feet. R. T. Henderson's No. 1 Sistrunk, SE NW Section 9-9-12, about 3 miles southeast of Pleasant Hill production in Sabine Parish, which blew in last week with an estimated 15,000,000 feet of gas, was killed and 8½-inch cemented at 3,330 feet, total depth 3,384 feet, approximately 1,000 feet deeper than Pleasant Hill production. George LeGrand has temporarily abandoned No. 1 McGough, SW NW Section 2-8-10, at 2,640 feet, where it has been standing for the past four months.

ARKANSAS—EAST TEXAS

George W. Harper's No. 1 Reed-Bodcaw, SW NW Section 16-15-22, Lafayette County, Arkansas, was coring hard sand at 2,275 feet after a dry drill-stem test at 2,040 feet. Miller County was inactive except for Duluth-Arkansas Oil Co.'s No. 2 Beck, SE SW Section 34-15-26, and it shut down at 500 feet. E. R. Henderson's No. 1 Snyder, 2 miles east of El Dorado South Field production in Union County, was coring blue shale at 3,080 feet, not having had a show of anything, not even salt water.

Lyman & Rolfe have location for No. 1 R. D. Holt in the Thomas Price Survey of Bowie County. Great Eastern Petroleum Co.'s No. 1 Rudd, William Steele Survey of Harrison County, is shut down for orders after a dry test at 2,848 feet. Triangle Drilling Co.'s No. 1 Hearne Estate, F. C. Baker Survey, Harrison County, is a location. Starling and Oreston's No. 1 Henderson, R. Bennington Survey of Marion County, is temporarily abandoned at 2,635 feet. Perry and others have a rig up for No. 1 E. B. Colgin in the M. G. Noll Survey of Marion County. Hampton Drilling Co.'s No. 1 Lloyd Thompson, Allen Leach Survey of Panola County, was waiting for casing to set after coring sand showing oil at 2,020-28 feet, total depth. W. H. Nichols and others have derrick up for No. 1 S. W. Ray in the W. P. Culver Survey; one of a number of locations that have been made surrounding the Mid-Continent Oil & Gas Co.'s well that was completed a few weeks ago as a 15-bbl. producer. Carl Reamer and others have rig up for No. 1 H. B. Ivy in the P. Branton Survey of Panola County. M. H. Robbins and others are rigging up on No. 1 Alzee Williams in the Winnie Mann Survey, half a mile northeast of the Mid-Continent well. Joe Burnham was arranging to run core test on No. 1 Nichols & Daniels, H. B. Shaw Survey of Red River County at 3,238 feet. L. S. Priest and others' No. 1 R. W. Peek, Abram Wagley Survey, is shut down for orders at 2,760 feet in gray and green sand. General Minerals Oil Co.'s No. 1 Pickering, D. S. Height Survey, Shelby County, remains shut down at 3,908 feet.

Gulf Coast Fields

(Continued from Page 54)

initial production of 39 bbls. an hour for 17 hours. It made a total of 663 bbls. of pipe line oil the first 24 hours. This is the first well that has been completed in the field for more than a year except a number of shallow tests drilled for sulphur. This well was completed in a new producing horizon as all previous wells have found production in deeper sands. The oil sand was found at a total depth of 3,704 feet. One joint of screen was set on the bottom of three joints of 4½-inch liner. It is being produced through a one-half inch choke. The oil tests 28.7 A.P.I. gravity.

The development of the Fannett Field started in 1927 and the majority of the productive area is controlled by the Gulf Production Co. which has been developing the field in an orderly and conservative manner keeping only one rig running most of the time.

Black Gold Oil Co. has made location for No. 1 Jackson, William Smith Survey, at Fannett and is moving in derrick.

Harris County

Another producing area may be added to Harris County, as indicated by a showing of gas found near Genoa by Jack Schultz and associates' No. 1 West Production Co. on the George Dedrick Survey. This wildcat made a drill stem test during the latter part of the week that showed for the recovery of dry gas at a total depth of 3,414 feet and built up a pressure of 500 pounds in five minutes.

This is the fourth test drilled on the Genoa prospect, which was discovered by H. C. Cockburn. It is the second well to produce gas. Several years ago Humble Oil & Refining Co. drilled two wells, one of which was completed as a 15,000,000-foot gasser but which after short life was deepened and abandoned. The other was a dry hole.

Humble gave up the prospect but recently Jack Schultz and others entered into an agreement with the Cockburn interests whereby they would develop the prospect. The first test started by Jack Schultz and others was junked around 5,000 feet when a drill stem stuck and the second test was started which has resulted in the present showing of gas. Casing is being moved in which will be run to 3,400 feet on top of the sand to make a test of the gas showing.

A disappointment was reported from a wildcat test in Harris County during the week when Gholson & Parson's No. 1 W. E. Freeman in the H.&T.C.R.R. Survey, was dry at a total depth of 6,690 feet, where it was abandoned. The test is 330 feet from the SE cor., Section 57, Block 2, in the H.&T.C.R.R. Survey, southeast of the Hockley Dome, in the northwestern part of the county.

Ariola Dome

Republic Production Co. and Houston Oil Co.'s No. 4 Ariola is drilling at 3,600 feet. It is the only test drilling on the Ariola Dome in Hardin County at present. In development of the Ariola Dome seven dry holes have been completed in the area and two producing wells. The discovery well was completed about a year ago making around 285 bbls. of pipe line oil.

Thompson Field

Wes-Len Oil Co.'s No. 1 Mays, Samuel Kennedy Survey, Thompson Field, Fort Bend, made 88 bbls. an hour of pipe line oil through a one-half inch choke from a total depth of 5,398 feet. This well is in the north extension area and is one of the best producers yet completed there.

Liberty County Deep Test

The deepest test yet drilled on the Gulf Coast which is being watched with interest is Yount Lee Oil Co.'s No. 1 E. W. Boyt, H.&T.C.R.R. Survey No. 17, Liberty County. It was drilling on the last report at 9,700 feet. This test has not reported any showings of oil or gas to date and it will probably be drilled as deep as possible in search of geological data.

Black Bayou

In Louisiana Shell Petroleum Corp.'s No. 15 Watkins, in the Black Bayou Field, Cameron Parish, is a reworked well drilled deeper to a new producing horizon, making 838 bbls. of oil through a one-half inch choke at a total depth of 4,551 feet. The gas-oil ratio of the well is 390 feet of gas to a barrel of oil.

Michigan Fields

(Continued from Page 60)

William and F. J. Maricelles farm, SE NW SE Section 23, same township and county; for No. 2 well, 330 feet from the north line and 330 feet from the east property line of the Joseph Verrette farm, NE SE SE Section 23, same township and county; for No. 3 well, 330 feet from the south line and 330 feet from the west property line of the Joseph Verrette farm, SW SE SE Section 23, Vernon Township, same county; for No. 4 well, 330 feet from the south line and 330 feet from the east property line of the Joseph Verrette farm, SE SE SE Section 23, same township.

Permits were issued to Pure Oil Co. for No. 6 well, 330 feet from the south line and 330 feet from the west property line of the Mina C. Naramore farm, N half SE Section 16, Porter Township, Midland County; for No. 1 well, 330 feet from the north line and 330 feet from the west property line of the A. C. Wyant farm, W half SW Section 16, Porter Township, Midland County; for No. 1 well, 330 feet from the south line and 330 feet from the west property line of the James W. Peek farm, S half NW and NE NW Section 16, Porter Township, Midland County; for No. 2 well, 330 feet from the north line and 330 feet from the west property line of the James W. Peek farm, S half NW and NE NW Section 16, same township.

Permits were issued to Fred W. Turner and others for No. 1 well, 330 feet from the north line and 330 feet from the east property line of the E. Hock farm, NE SE SE Section 21, Porter Township, Midland County; to "The Daily Oil Co.," an Ohio corporation, for No. 1 well, 990 feet from the south line and 330 feet from the west property line of the H. P. Christensen heirs' farm, NW NW NE Section 10, Home Township, Montcalm County; and to J. A. Guncheon and L. C. Young for No. 1 well, 330 feet from the north line and 330 feet from the west property line of the T. Regan farm, NW NW SW Section 25, Vernon Township, Isabella County.

Kansas Fields

(Continued from Page 51)

Wilcox sand was topped at 3,990 feet but salt water appeared at 4,000 feet.

Kingman County

Skelly Oil Co. was drilling at 1,375 feet in No. 3 F. C. Miles, CWL NE Section 30-27-10w, Kingman County. Same company's No. 1 S. Miles, CNL N half SE Section 30-27-10, which had salt water at 3,500 feet, was plugged back to 3,473 feet and flowed 98 bbls. in 24 hours. It was to be acidized. Same company was rigging up standard tools to complete No. 1 Ratcliffe, CEL NW Section 30, total depth 3,403 feet.

Sedgwick County

In Sedgwick County Shell Petroleum Corp.'s No. 7-A Lygresse, SW NE NE Section 15-26-2w, had chat at 2,876-85 feet. The well made 528 bbls. of oil and 288 bbls. of water in 24 hours. Drilling was continued, total depth 3,019 feet. Holbart Oil Co. had started drilling on a test, No. 1 Harder, SE SW SE Section 11-23-1e, Harvey County.

F. Fields' No. 1 Munson, SW NE SW Section 9-25-14, Woodson County, was dry and abandoned at 1,501 feet.

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Origin of Petroleum as Related to Formation of Coal

Is it acknowledged that there is a relation between the formation of petroleum and coal? Are the two substances considered to be similar in composition when considered in a broad and general way?—M. H. J.

I have held the opinion that there must be a very close relation between the formation of coal and petroleum; in fact, coal deposits are frequently looked upon as favorable signs of a petroleum area, either in the immediate vicinity or not far removed. Numerous investigators, especially Mabery and associates, have shown that there appears to be a continuity of origin through the shales, coals, petroleum and natural gas.

Prof. Ernest Berl, of the Darmstadt Institute, has recently announced his conclusions resulting from the research work he and his associates have completed on the coalification of a cellulose, lignin and wood. This work may help in explaining the origin of bituminous coal, petroleum and asphalt. Cellulose and lignin were converted to coal while heated in high pressure bombs to 644° to 752° F., in the presence of strong water solutions of salts or alkali. Doctor Berl agrees with many geologists that plants poor in lignin, resin and wax, produce the starting material in the carbon age for bituminous coal. He was in agreement with the opinions of the majority of geologists that plants poor in lignin, resin and wax, and thus rich in cellulose, produced the starting material in the carbon age for bituminous coal.

"At a guess, 6,000,000 years had passed since the carbon age. Naturally, it must not be supposed that coal required this enormous period of time for its complete formation. If one calculated thermally the coalification reaction of cellulose on the basis of a decomposition equilibrium, which was in good agreement with experimental results, then, under complete adiabatic conditions, a rise in temperature of 1,400° C. was obtained. This, of course, was not the case for during the long period of the coalification reaction, a large proportion of the heat could be lost by radiation. Nevertheless, a type of auto-catalytic process would have taken place.

"The idea had been put forward by many investigators that coal was the parent substance of mineral oil. The idea was that in nature young coal was converted by the action of hydrogen into hydrocarbons similar to those found in mineral oil, just as in the Bergius hydrogenation process. The origin of the hydrogen according to this idea was by the action of steam on red-hot coal, exactly as in the water-gas process. He could not, however, state that he was in entire agreement with this.

"Modern geologists considered that mineral oils had been formed at depths of 3,000 meters and more. He was in entire agreement with this, and that the coalification products of cellulose had been sunk to depths such as these by ordinary geological subsidences, and that mineral oil had been formed from these coalification products either by a process of cracking or hydrogenation. If one supposed that cracking reactions had taken part in the formation of mineral oils to an important extent, then it followed that the high-boiling asphalts arising from these reactions had remained in depths as yet inaccessible to them, whereas the lighter volatile mineral oil hydrocarbons had risen through the strata and condensed."

Professor Berl concluded by saying that the theories on the formation of mineral oils could be collected into three big groups:

First, the one which held that mineral oil type hydrocarbons had been built up from simple hydrocarbons, such, for example, as those produced from the carbides.

Second, the Engler theory, which supposed that the mineral oil hydrocarbons had been formed by the decomposition of fish remains.

Third, the theory which held that the flora of the seas, lakes and lagoons were responsible for the formation of mineral oil.

Reference. Petroleum Times, August 20, 1932, page 187.

Bentonites and Related Earths For Filtering Mediums

Is the earth bentonite considered to be a good material for use as a filtering medium for the bleaching of lubricating oils?—E. B. R.

The bentonites are not all recognized as powerful filtering mediums, but some of the related earths may be activated and these are of value. P. J. Nutting explains in The Oil and Gas Journal, January 26, 1933, page 14, the bentonites as follows:

Clays of the inactive but activable type are largely bentonites, originally volcanic ash but decomposed and partly leached. These are widely distributed and each bed covers a large area, but is usually too thin to be of commercial interest. One horizon characterized by probably discontinuous beds of bentonite extends from Canada to northern Alabama but is only 2 feet thick in eastern Tennessee and northern Alabama and 5 feet at High Bridge, Ky. Many western deposits are much thicker.

Where bentonites have been carried and redeposited by water, they are usually mixed with ordinary clay and silt. Most of the Oklahoma and Texas activable clays appear to be of this character. While pure bentonites such as those from near Otay, Calif., Chambers, Ariz., and Westcliffe, Colo., activate to a ceiling of 2.0 these Mid-Continent impure bentonites activate to 1.3 to 1.7.

In some other bentonites the decomposition has not progressed far enough to render them readily activable. Either the volcanic ash was originally too silicic or the climate and other physical conditions were not favorable for a decomposition to a highly activable type of clay. Those of Wyoming South Dakota, western Montana, and Alberta, appear to be chiefly of this class. No naturally active or commercially activable clay from north of the latitude of Richmond, St. Louis and Salt Lake has yet been found. The fuller's earth of Massachusetts is a fine quartz silt which does not bleach oil. There are indications that the naturally active Death Valley clay may be a bentonite that has been altered to an active state by unusual natural processes.

Drain Contaminated Oil From Crankcase

Are there any real facts to support the idea that the used oil in an automobile crankcase should be drained off and replaced with new oil at regular intervals?—A. D. O.

Several investigators have shown that lubricating oil does not wear out in service in the same way that rope, leather and other materials do, but that it may be contaminated with substances which will damage the motor. Dr. H. C. Dickinson, of the U. S. Bureau of Standards, has discussed this subject and the essential parts of his statement are given in the following from Ind. Eng. Chem., 11, 187, 1933.

The lubricating oil in the crankcase of the automotive vehicle serves as a lubricant and cooling agent, the oil being recirculated through the most important bearings. It is the recirculation of the oil that introduces the problem of oil changes.

The handling of the oil is as follows: A quantity, usually 1 to 2 gallons, of oil is poured into the crankcase oil pan. This oil is circulated by a pump through some or all of the major bearings of the engine, and escapes from the ends of these bearings to be distributed in a fine spray throughout the crankcase. This spray bathes and effectively lubricates cylinder walls, pistons, rings and any bearings not supplied with oil directly by the pressure pump. In a few instances, the so-called dry sump system is used, in which a secondary pump takes the surplus oil from the crankcase oil pan to a separate container which supplies the main pressure pump. The important fact for present purposes is, however, that in all cases the oil is subjected to "splash operation" when it bathes all the exposed parts within the crankcase. It serves to cool hot pistons by contact with the under side of piston heads, and is subject to deterioration by contact with air and hot metal and by collection of any foreign matter present.

The value of clean new mineral oil as a lubricant for the bearings which are to be found in an engine crankcase is determined by its viscosity at the operating temperature. Reasons for draining the crankcase have to do with changes which take place in the oil while in use. These may be considered as contamination of the original oil, since the main constituents of the new and used oil are the same.

The contaminants are: (1) Dirt, mostly silicates; (2) fuel residues; (3) water sometimes containing inorganic acids; (4) metal particles from wear or abrasion of parts; (5) asphaltenes resulting from partial oxidation of the hydrocarbons, and (6) cracked products of various kinds from heating of the oil.

With the exception of fuel residues, the gradual accumulation in the oil of the contaminants renders the crankcase oil gradually less safe and effective as a lubricant. The deterioration may be more rapid in some services and with some oils than with others. Hence occasional complete draining of the crankcase is to be recommended. The frequency of changing depends on the several factors mentioned. It is well to remember that the cost of repairing damages resulting from a lubrication failure usually is large compared with the cost of oil. Changes, therefore, should not be delayed too long. For example, if a car holding 6 quarts of oil in the crankcase uses 1 quart of oil every 250 miles, then in 6,000 miles of operation, 84 quarts will be used if changed every 500 miles. On the other hand, if the oil is changed every 1,000 miles, 54 quarts will be used; whereas extending the period of changing to 1,500 miles would require the use of 44 quarts. The difference between changes at 500 and 1,000-mile intervals is sufficient to merit real consideration, if the type of equipment and of service permits this increase in distance between oil changes. However, the 10-quart difference in oil consumption between changes at 1,000 miles and at 1,500 miles, in the particular case chosen, is so small that any increased risk in extending from 1,000 to 1,500 miles between changes would hardly be justified.

In the case of the individual car owner, it is considered advisable to accept the recommendation of the car manufacturer regarding the mileage between changes, which can be assumed as well on the safe side. With an organization owning a large fleet of cars, trucks, or buses and keeping an accurate cost record of operation, the situation is somewhat different. Inspection of the equipment is made periodically and facilities are available for testing the crankcase oil. Under these conditions, the period between draining the oil can be gradually raised from a known safe lower limit until the optimum mileage between changes is found. This optimum mileage represents a balance between oil costs and repair costs. Such a procedure is obviously impossible for the average car owner, because of lack of adequate facilities for making inspections of equipment and testing the oil. In general, the difference in the optimum mileage between oil changes found by some of the larger fleet owners and the mileage recommended by the car manufacturers represents a very small fraction of the cost of operating a car.

XUM

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing or transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Determining Location for Well on the Flank of Structure

It seems as though petroleum engineers do not always agree on the best location for a well on the flank of a structure, some of them being of the view that you should drill your first well high on the structure while others say you should start low. If you can tell me what is looked upon as the best way by the best engineers, and why, I will appreciate it.—S. M. H.

In a paper presented before the Tulsa meeting of the A.I.M.E. in October, 1929, C. S. Corbett, geologist, the Gulf Oil Corp., New York, outlined a procedure for exploitation of an oil-bearing structure (by unit operation). While this may not exactly answer your question, since you do not indicate that unit operation is contemplated, it is believed that to answer your hypothetical question Mr. Corbett's recommendations are pertinent. He is dealing with the problem of oil recovery, and unit operation is only suggested as a means to that end.

The procedure as outlined by Mr. Corbett assumes for convenience and because it is considered the ideal structure for oil accumulation, the elongated dome type of structure, but the procedure described can be adapted just as well to oil accumulations that owe their concentration to other structural conditions, except those rare instances where the oil is in synclines because of lack of water in the rocks.

As indicated, the plan proposed is only for fields in which the reservoir rock is of the nature of sand or sandstone as to its storage characteristics; that is, rock with small openings serving as the collecting space, rather than one with large openings, such as the honeycombed or cavernous limestones.

In brief outline, the procedure advocated by Mr. Corbett is as follows:

"1. Exploitation to begin with the taking of oil from wells which penetrate the producing formation a short distance (the first locations) down the dip beyond the limits of the free gas in the crestal part.

"2. Wells at locations successively down the dip to be drilled and brought into production as needed to maintain the required supply, the wells which have been producing being closed when their gas-oil ratios become excessive as a result of the free gas in the formation gaining access to them.

"3. Gas produced with the oil (principally, of course, out of solution in the oil) in excess of the amount actually needed for use in the field to be returned to the formation through one or more wells penetrating the oil-bearing horizon in the free-gas area.

"4. When the field has been completely worked over and production has begun to fall in the lowest flank locations, edgewater encroachment to be used, aided if necessary by artificial water-flooding methods, and the field to be worked over again by opening wells successively in reverse order up the dip as needed. It will probably be expedient to return gas to the producing horizon during this stage unless the field pressure has dropped to a very low level.

"The first stage (working down the dip) makes use of gas drive, the second stage (working up the dip) uses water drive, and the combination of the two should give a larger ultimate recovery than could be obtained by any other means short of mining for the oil. Gas stored in the formation during the first stage would be removed with the oil during the second stage and its eventual recovery would be practically complete. Properly carried out, a minimum of oil will be by-passed by the gas drive and this will be mainly in the form of films adhering to the sand grains by absorption and held by capillarity. It is such retained oil that the water drive is particularly efficient in 'prying loose,' especially if a solution of sodium carbonate is used."

What Percentage of Oil Is Lost by Storing in Earthen Pits?

Can you tell me about what per cent of oil would be lost in 90 days by storing it in an earthen pit 10 feet deep, 100x100 feet where the soil is 50 per cent clay and 50 per cent sand? How much greater would the loss be if the soil were 75 per cent sand and 25 per cent clay? What part would be lost in the earth and what part through evaporation, figuring on East Texas soil? Can oil so stored be insured against fire?—O. B. W.

To begin with, there is a law in Texas which prohibits earthen storage of oil. Furthermore, no operator in East Texas would consider dumping light grade oil such as is produced there into open pits made in the loose, sandy soil which forms the surface of that field.

In the Kern River Field of California it was necessary to construct earthen storage to handle about 500,000 bbls. of heavy oil and it had to be abandoned in a short time because of excessive seepage losses. When this reservoir was emptied it was found that this oil had penetrated more than 20 feet into the soil.

Loss from both evaporation and seepage from heavy 14° to 16° Be. oils in another million-barrel reservoir in California was checked over a period of six years. When this reservoir was approximately full the loss was 0.58 per cent a month, or 6.96 per cent a year. This would be 69,600 bbls. yearly. The reservoir later was lined with concrete and the loss was then at the rate of 0.176 per cent a month, or 2.112 per cent a year. This indicates a saving of 48,500 bbls. per year, or it may be taken as representing that quantity of oil actually lost by seepage when the unlined earthen storage was used.

There are no data on loss in clay soil and sand for comparison because it would be foolish to dig an earthen reservoir in sandy soil if any attempt was to be made to retain the oil. It is probably true that some pits have been excavated under emergency conditions to catch as much oil as possible escaping from a well out of control without any regard to the character of the soil. But it is not believed that anyone would deliberately choose sandy soil in which to excavate for a storage reservoir and especially to handle light East Texas crude oil.

No insurance company would write insurance on oil placed in open storage. Properly constructed concrete tanks can be protected against evaporation loss to some extent by charging the open space between top of the oil and the deck over the reservoir with a layer of inert gas such as carbon dioxide.

If you are interested in the general subject of storage reservoirs it is suggested that you get C. P. Bowie's U. S. Bureau of Mines Bulletin 155, written in 1918 and entitled "Oil Storage Tanks and Reservoirs"; also two bulletins issued by the same department and written by J. H. Wiggins. They are Nos. 200 and 225.

Why Was It Called That?

SUITCASE SAND

The expression "suitcase sand" has two meanings in the oil fields, both used in disparagement. Sometimes the term is employed derisively of a sand, so thin that even though it contain some oil, it is not worth producing from. That is to say, there is so little of it that it "could be put in a suitcase." Sometimes when a driller encounters a sand which for any reason he cannot penetrate, the troublesome formation is referred to as a suitcase sand, the designation in this case implying that the driller "may as well pack his suitcase and leave."

Difficulties With Torsion Balance Removed by Better Technique

Is it a fact that the torsion balance cannot be used in regions of irregular topography? I have been told that in mountainous country this instrument cannot be depended upon to reveal subsurface conditions. If this is true, is it not going to reduce the usefulness of the torsion balance to a serious degree?—E. T. T.

Notwithstanding the extensive use of the torsion balance in prospecting for petroleum the precise scope of this instrument is still not wholly defined, but the seriously reduced usefulness which you suggest need hardly be considered. Concerning the limitations which rough surface features are supposed by some to impose on the usefulness of the torsion balance James C. Templeton has the following to say in an article on "Use of the Torsion Balance":

"Irregular mass distributions above and below ground produce disturbance effects which do not reflect the subterranean geologic structure. These extraneous effects have caused most of the difficulties in the application of the torsion balance method in the past, but owing to improved technique and computative methods in recent years, most of these difficulties have been overcome.

"Rugged topography is no longer a serious limitation to the application of this method, where contour maps are available. Even where there are no such maps certain structural features can still be delineated.

"Sufficient density difference and concordance of the formations of rock masses comprising the structural features are essential for successful application of the torsion balance method. A surface of marked unconformity may make it impossible to elucidate the structural configuration. On the other hand, the surface of unconformity may itself be delineated in certain circumstances.

"The torsion balance method is particularly adapted to the discovery and elucidation of all structures of considerable relief, including complex structures and faults. For the rapid discovery and location of large simple structures at shallow depth, structures of low relief or dip, and also for accurate depth determinations, various seismic methods have an advantage where otherwise applicable.

"Greater use of the torsion balance can be made in the delineation of fault lines closely associated with salt domes, which may be important factors in the localization of oil on the flanks of these domes. To determine if a density difference is adequate for the elucidation of the structural features, it is necessary to make a preliminary computation based on the expected type of structure. In practice differences of .1, and sometimes lower have to be taken into account.

"The most important section in the application of the torsion balance is the planning of the survey. Careless or faulty planning adds enormously to the cost and frequently results in failure. Planning, to be successful, must be based on a full consideration of all relevant geological information and probabilities. The network system of station layout is unsatisfactory and uneconomical. The two-instrument field party is generally the most satisfactory unit."

Before You Buy a Winch Use This Checking Sheet

There are many Oilwell Servicing Winches available . . . all of them good, some better than others . . . but there is only one BEST! Use this convenient form in making your comparisons and see WHICH WINCH really offers most.

PART OR FUNCTION	THESE SPECIFICATIONS BASED ON THE CARDWELL-ALLSTEEL HS SERIES	CHECK COMPARISONS HERE	
		Other Make	Other Make
FRAME	One piece, electrically welded from *heavy,* 8 inch, 6.25 lb. structural shapes.	Yes — No	Yes — No
MOTOR	Motor ratings are always quoted *with accessories* and at manufacturer's recommended rate of RPM.	Yes — No	Yes — No
SHAFTS	Drum Shaft is SAE 3135 steel, heat treated, 4" diameter. Countershaft is SAE 3135 steel, 3¼" diameter.	Yes — No Yes — No	Yes — No Yes — No
BEARINGS	Drum bearings are heavy-duty Timken roller type placed to take up thrust; fully adjustable from outside and run in constant oil bath. Grit and salt water are positively excluded with Rawhide seals. Bearings according to Manufacturer's specifications. COUNTERSHAFT BEARINGS: Hyatt.	Yes — No Yes — No	Yes — No Yes — No
DRUM TUBE	Large line capacity and large diameter to minimize cable wear; laminated to double thickness to insure against crushing.	Yes — No	Yes — No
DRUM ACTION	Full release, floating type. No part of winch mechanism in motion while drum clutches disengaged.	Yes — No	Yes — No
BRAKE FLANGES	Special alloy iron, demountable type. Guaranteed to never check, crack nor become distorted from either heat or pressure. Extremely high coefficient of friction.	Yes — No	Yes — No
BRAKES	Gatke premoulded block linings. Patented Wedge-action type, providing 1375 inches of effective area; positive self-energization and fully equalized.	Yes — No	Yes — No
CLUTCHES	Transmission clutches are multiple dry disc type; foot controlled. Drum clutches are of alloy steel 8-jaw dental type, machined to jigs and bevel undercut to eliminate possibility of becoming disengaged while under load.	Yes — No	Yes — No
SPROCKETS	Cut steel, heat treated. Main driven sprockets of demountable-rim type.	Yes — No	Yes — No
CHAINS	Diamond chains, alloy steel; specified in accordance with Manufacturer's experience as to lineal speeds and load requirements.	Yes — No	Yes — No
CHAIN ADJUSTMENT	All chains are adjustable and may be tightened to extent of one link by simple screw adjustment.	Yes — No	Yes — No
TRANSMISSION	Four forward and one reverse speeds; heavy duty type. Manufactured by a recognized Transmission Manufacturer and in accordance with his recommendations as to capacity and factor of safety.	Yes — No	Yes — No
SINGLE LINE PULL CAPACITIES	Specifications indicate actual NET single line pull on bare drum. All efficiency losses have been deducted.	Yes — No	Yes — No
ATTACHMENTS	One or two catheads. Provision for attachment of rotary drive sprocket or spudding crank.	Yes — No	Yes — No

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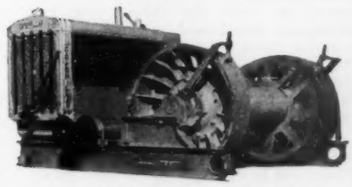
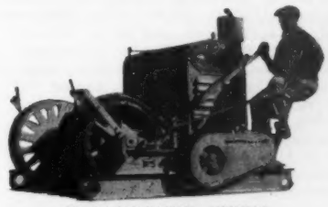
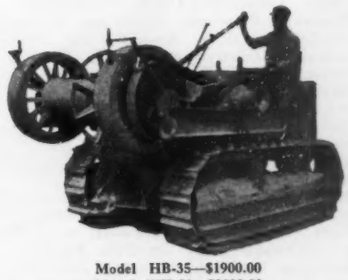
For wells of not more than 3100-foot depth.
Model QS-6ZK—$1500.00
A 42.5 H.P. Six Cylinder Motor and large drum capacity.



Model HS-5500—$2100.00
Designed especially for East Texas Field. Various makes of 4 and 6 cylinder motors; 47 to 54 H.P.



Model HS-6-SRKL—$2500.00
This 74 H.P. Six Cylinder Motor gets the job done.



Model HB-35—$1900.00
Model WH-50—$3000.00
Combination Tractor and Servicing Units that handle any 3500 to 6000-foot production.

We Manufacture Winches for Servicing Wells of Every Depth Including the Oklahoma City Field

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XUM

NEWS FOR PETROLEUM REFINERS

Marketing Bodies Suggest Changes for New Oil Code

CHICAGO, Aug. 28.—Representatives of 20 state oil marketing associations met here last week to discuss the code for the petroleum industry, drew up proposed revisions and forwarded them to Gen. Hugh S. Johnson, administrator. They pointed out that they are in support of the code, and that the revisions sought are in the interests of making the code more effective. Articles 2 and 5 are the only ones in which changes are asked. In Section 2 and Section 3, it is recommended that the words "petroleum products" be substituted where the word "gasoline" appears. In the rate scale in Section 2, it is asked that daggers be placed before "Kentucky and Tennessee," as conditions there do not differ from those in Alabama and Mississippi.

Deletion of the present Section 4, of Article 2, is asked, and substitution of the following: "There shall be an equitable adjustment of the differentials between the rates for skilled jobs and minimums established in this code for common labor." Greater flexibility for the code is the advantage claimed for the proposed wording. Changes in connection with Article 5, are covered in the Chicago market report in this issue.

Associations represented were: Burning Oil Distributors Association, F. J. Moore and E. J. Hughes; Certified Burning Oil Distributors of St. Louis, E. L. Hughes, proxy for James Gilmore; Colorado Jobbers Association, B. L. Majewski, proxy for W. E. Thomas; Illinois Petroleum Marketers Association, C. S. Rosenthal, C. O. Beroth, B. L. Majewski, O. L. Peterson and G. A. Primm; Iowa Petroleum Marketers Association, M. L. Long; Indiana Petroleum Association, Charles Foreman; Kansas Oil Men's Association, John Motter; Lubricating Oil Wholesalers Association of Chicago, T. A. Telfer, George Bodie and S. T. Hoover; Michigan Oil Men's Association, H. H. Ragle; Missouri Oil Men's Association, George S. Alee; National Petroleum Association, Pennsylvania Refiners Division, B. L. Majewski, proxy for S. Messer; Nebraska Petroleum Marketers Association, C. M. Sutherland; Northwest Petroleum Association, E. E. Hadlick and R. W. Hadlick; Ohio Petroleum Marketers Association, E. V. Weber, H. W. Burkhardt and E. J. Bengert; Oklahoma Petroleum Marketers Association, J. R. Atchison; South Dakota Independent Oil Men's Association, E. E. Hadlick, proxy for C. C. Wagoner; Tennessee Oil Men's Association, B. L. Majewski, proxy for W. D. Hudson; Wisconsin Petroleum Association, H. A. Rhode and Elmer Pedley; West Virginia Marketers Association, B. L. Majewski, proxy for Paul Blazer; Kentucky Petroleum Marketers Association, B. L. Majewski, proxy for Herbert L. Clay.

Gasoline Second Largest Source of Federal Taxes

Since January 1, 1933, Federal tax collections on motor fuel have totaled $77,888,643. State, county and city motor fuel tax collections, on the basis of 1932 collections, should exceed $290,000,000. The total motor fuel tax bill for the first seven months of 1933, consequently, may be estimated at $370,000,000, or more than was collected by the states from this source in any full year up to 1929.

Motor fuel provided the second largest single source of revenue in the Federal Government's July collections, being exceeded only by revenue from taxes upon cigarettes. It was more than $1,000,000 larger than the tax on beer, and $3,000,000 greater than the revenue from income taxes.

Following is a table showing the various taxes paid by motor vehicle owners and operators to the Federal Government in July:

Lubricating oil	$2,451,639
Motor fuel	15,799,054
Tires and tubes	3,623,941
Trucks	471,945
Automobiles and motor vehicles	3,743,539
Parts and accessories	480,672
Total	$26,570,799

Following is a table showing Federal motor fuel tax collections in 1933 by months:

January (1-cent)	$11,341,894
February (1-cent)	8,515,014
March (1-cent)	10,547,167
April (1-cent)	7,982,100
May (1-cent)	12,773,675
June (1-cent)	10,929,740
July (1½-cent)	15,799,053
Total	$77,888,643

Brittan and Bivins Made Aides to B. H. Markham

Walter F. Brittan, of Great Falls, Mont., and John H. Bivins, Jr., of Jackson, Miss., have been appointed assistants to Director B. H. Markham of the American Petroleum Industries committee. Mr. Brittan and Mr. Bivins will have their headquarters in New York.

Mr. Brittan has served as chairman and secretary of both the Montana Code and Montana Gasoline Tax Evasion committees, and as secretary of the Montana Petroleum Industries committee. He has been president of the Bannatyne Pipe Line Co., of Great Falls, and secretary of the Rocky Mountain Oil and Gasoline association since their organization. His new duties will keep him in contact with petroleum industries committees of states west of the Mississippi River.

Mr. Bivins has served as secretary of the Mississippi Code, Gasoline Tax Evasion, and Petroleum Industries committees, with offices in Jackson. He is a member of the Mississippi bar. His work as assistant director will bring him in touch with petroleum industries committees of the eastern states.

Danciger Is Denied Stay in Its Suit Against State

AUSTIN, Tex., Aug. 28.—Attorney General James V. Allred has returned from Washington, D. C., where he attended the code hearings, and from New York where he appeared in the case of the Danciger Oil & Refining Co. against the Railroad Commission of Texas and others.

The attorney general's department has received notice from Justice Cardozo of the U. S. Supreme Court, denying the application of the Danciger Oil & Refining Co. for a temporary stay order restraining the State from prosecuting an injunction suit against said company restraining it from overproducing while the case is on appeal. The Danciger company originally brought its suit before a three-judge Federal court and obtained a temporary injunction, under which it has been producing to full capacity in the Panhandle Field. In July the three-judge court upheld the orders of the commission and on July 29 the attorney general's department instituted suit for injunction in the district court of Travis County, Texas. The company sought to obtain a stay order from the U. S. Supreme Court pending appeal.

Texaco Signature to Code Benefits Important Areas

DENVER, Colo., Aug. 28.—In Colorado, Wyoming and Montana, where the Texas Co. has substantial producing, refining and marketing facilities, a pronounced effect will be achieved through Texaco's signature to President Roosevelt's blanket code under the National Industrial Recovery Act.

Y. A. Land, Denver, counsel for the company, said in a statement: "Our signature to the code means that all employes of the Texas Co. and its subsidiaries come within the benefits and the obligations of that code. We expect to add several thousands to our national personnel, and our payroll increase will be very large. Naturally a proportionate share of these benefits will be felt in our Rocky Mountain division.

"Included in this division are headquarters in Denver for the producing department of the Rocky Mountain division and sales offices for Colorado, Wyoming, Nebraska and Kansas. At Craig, Colo., and Casper, Wyo., we have refineries. At Sunburst, Mont., we have the International Refining Co., which is wholly owned by Texaco, and at Butte we have sales headquarters for Montana, Idaho and Utah. Producing properties and marketing facilities extend throughout Colorado, Wyoming and Montana."

Transport Proceeds With Work in McKinley County

Advices from California indicate that the Transport Refining Co. is preparing to go ahead with its operations in McKinley County as outlined last year as soon as possible. The company contracted for the purchase from the Midwest Refining Co. (Stanolind Oil & Gas Co.) of its three shut-in wells on the Hospah Dome, and its acreage in that field, and to drill additional wells, construct a 32-mile 4-inch pipe line to Baca Station, on the Atchison, Topeka & Santa Fe Railroad, and build a 1,200-bbl. refinery at the terminal. The company has filed its registration certificate under the Federal Securities Act of 1933, announcing its intentions of carrying out the plans. Names well known in the development of Wyoming fields are identified with the project. C. C. Worland, now living at Chula Vista, Calif., is president, and Leslie D. Welch, of Los Angeles, is secretary.

Colorado Motorists Must Now Pay Yet Another Tax

Another tax was slapped on automobile owners in Colorado the past week when the legislature in special session adopted a measure imposing special taxes on cars to run for two years. The law goes into effect September 1. The tax runs from $2 on a car valued up to $50 to $60 on an automobile valued at more than $5,000. The average is expected to be around $3 per car. This is in addition to licenses and property tax and is to be collected on all cars for 1933 and 1934 to provide funds for unemployment relief. It is expected to raise $1,500,000 in 1933 and a similar amount in 1934.

The measure was oppsed while before the legislature by automobile dealers and others, but since its adoption there has not been much complaint as it is realized that funds had to be provided for the unemployed and the tax is offset by some advantages. The same legislature passed a bill authorizing the State to borrow $20,000,000 from the Federal Government for highway construction purposes. The Government will match this amount with $8,000,000, and with Federal aid, and other funds, the State will have altogether around $36,000,000 for highway purposes. The loan and interest will be repaid by setting aside 25 per cent of the gasoline tax now collected and also certain funds from the sale of automobile licenses. Since the expenditure of these large sums will give Colorado a highway second to none and which will attract thousands of auto tourists to the State, it is felt that the special auto tax will not be such a great burden after all.

Another angle to this highway construction is important to the oil industry. Wyoming has a $4,500,000 highway budget and Montana will come in for considerable construction. The work will mean large orders for road oil and this will help the black oil conditions in Wyoming, where several of the refineries are now equipped to turn out that product.

Canadian Refiners Consider Crude Supply from Russia

WINNIPEG, Manitoba, Aug. 28.—Independent oil refiners in Saskatchewan are considering the possibility of getting crude oil supplies from Russia. The Russian crude, they hope, may be obtained as a substitute for Oklahoma crude, on which they fear the freight rate will be increased 50 per cent.

C. B. Keenleyside, president of the Hilway Refineries, Ltd., stated: "It looks like a possibility, but there are a lot of details to be worked out." Information regarding shipping and freight rates on Russian crude oil was being secured, Mr. Keenleyside said.

Though importations from Russia have been a center of political controversy, a precedent for crude oil imports is pointed out in the deal carried through two years ago between Russia and the Aluminum Co. of Canada, when Canadian products were bartered for Russian crude.

OIL LABELING ACT ATTACKED

LOS ANGELES, Calif., Aug. 28.—An attack on the constitutionality of the California gasoline and oil substitution act, adopted by the last legislature, is made in a suit filed in the Superior Court by W. A. Ellison, doing business as the Ellison Oil Co. The action is in the form of an injunction to restrain state, county and city officials from enforcing the new law which requires dealers in gasoline and lubricants to label plainly each product offered for sale. The plaintiff takes exception to a section of the law requiring reclaimed oils to be labeled "reclaimed lubricating oil" or "reclaimed used motor oil."

CORRECTION IN OIL CODE

The National Recovery Administration has issued the following correction to the code for the petroleum industry: Rule 29, after "1932" at the end add, "and which distribute their patronage dividends to such members only, shall be exempted from certain provisions of this Article 5 as hereinbefore specified; provided, however, they shall be otherwise fully subject to the provisions of Article 5."

McCOLL-FRONTENAC OFFICERS

MONTREAL, Ontario, Aug. 28.—McColl-Frontenac Oil Co. of Montreal has announced retirement from the board of directors of J. B. Woodyatt and E. R. Parkins, K.C. These vacancies, with an additional director, are filled by the appointment of F. S. Griffiths, of Toronto, and W. G. Mitchell and Brig. Gen. J. B. White, both of Montreal.

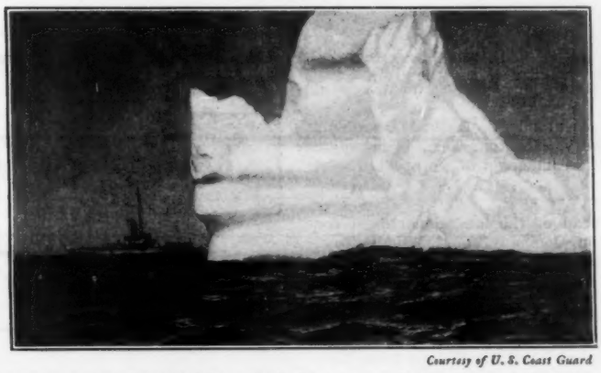
CIRCULATION 75,000

BIG NEWS

Published by Sinclair Refining Company (Inc.), 45 Nassau Street, New York, N. Y.

LATE EDITION

NATIONS' ICE PATROL USES SINCLAIR OIL



Courtesy of U. S. Coast Guard

ON THE INTERNATIONAL ICE PATROL.—Coast Guard Cutter off the Grand Banks of Newfoundland standing by a huge iceberg to warn trans-Atlantic shipping of its exact whereabouts by means of wireless communication. Ships of the International Ice Patrol use Sinclair Oils in their hard, dangerous work of guarding the shipping lanes against the menace of floating bergs.

(Left)

CUTIE CUTS CUTICLE.—Tyrannosaurus Rex, most ferocious of dinosaurs, submits gracefully to a 20th Century luxury—a manicure by a gorgeous girl at the Sinclair World's Fair Exhibit. This exhibit symbolizes the great age of the crudes from which Sinclair Motor Oils are refined. (By and large, the oldest crudes make the best lubricants.) Attendance at the Dinosaur Exhibit is running at the rate of 1,000,000 people monthly.

FREE WHEELING WITH A BREEZE.—Here's a Chicago whoopee stunt. Seven members of the White City Roller Club best the heat wave at the Municipal Airport by hooking onto the tail of an American Airways' tri-motored Stinson plane. Each day American Airways' planes fly 37,697 miles, using Sinclair Oils exclusively.

NRA

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WE DO OUR PART

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For your free copy, write BIG NEWS, Sinclair Refining Company (Inc.), 45 Nassau Street, New York City.]

XUM

PERSONAL PARAGRAPHS

A. M. Kaine was recently elected secretary of the Hogan Petroleum Company of California.

* * *

Charles T. Lupton, geologist, has returned to Denver, Colo., from a business trip to northern Montana.

* * *

Claude Barrows, editor of the oil section of the Daily Oklahoman, Oklahoma City, Okla., is in Colorado on a vacation.

* * *

Rex R. Perkins, Sinclair Prairie Oil Company, was transferred recently from the Wheat-Mentone Field, Reeves County, Texas, to Crane, Tex.

* * *

M. E. Schwarz, who has been in charge of the Rio Bravo Oil Company's operations at Darrow, La., spent several days in Houston, Tex.

* * *

John S. Ivey, chief geologist, United Gas Company, Houston, Tex., is away on a vacation, which he is spending at Mobile, and on the Alabama coast.

* * *

R. B. High, superintendent of Shell Petroleum Corporation's refinery, Houston, Tex., is spending several weeks in the company's office at St. Louis, Mo.

* * *

Glenn Garrett, head of the land department for the Gulf Production Company, Fort Worth, Tex., with his family, is spending his vacation in Galveston, Tex.

* * *

R. P. Heuer, director of research for the General Refractories Company, Philadelphia, Pa., accompanied by Mrs. Heuer, sailed for Europe from New York last week.

* * *

E. G. Dahlgren, engineer, of the Oklahoma Corporation Commission's proration offices, Oklahoma City, Okla., has returned from a vacation spent in Minnesota, Wisconsin and Chicago.

* * *

R. F. Fike, head of the automotive transport department of the Mid-Continent Petroleum Corporation, has gone to Portland, Ore., his old home, and other Pacific Coast points on a vacation trip.

* * *

T. T. Freeman, land man for the Texas Company, Fort Worth, Tex., is in Denver, Colo., on his vacation. His family has been in Colorado for the past two months and will drive home with him.

* * *

Leo C. Harper, of Los Angeles, Calif., well known in Southwest Texas oil circles, has returned to San Antonio. He formerly lived in San Antonio, moving to California about four years ago.

* * *

John Larke, Texas Gulf Producing Company, Houston, Tex., has motored to Connecticut, his former home, for a two weeks' vacation. Mrs. Larke, who has spent the summer in the East, will return with him.

* * *

W. R. Guiberson, who has spent the past several years as vice president of the Guiberson Corporation in the Mid-Continent and Texas area, has returned to Los Angeles and is expected to remain in California indefinitely.

* * *

George Shaner, Tulsa, recently with the natural gasoline department of the Carter Oil Company, has been transferred to Jersey City, N. J., where he will work in the inspection laboratories of the Standard Oil Company of New Jersey.

* * *

C. G. Laskey, of Belchic & Laskey, of Shreveport, La., well known in northwest Louisiana natural gas producing, distributing and marketing activities, has been appointed a member of the Caddo Parish police jury, Shreveport. The police jury is, in effect, a parish or county legislature corresponding to quorum courts, county commissioners, etc., in other states.

C. E. Duffield, independent operator of Tyler, Tex., has returned from a vacation with his family in Canada.

* * *

Raymond M. Carr, production engineer, Sinclair Prairie Oil & Gas Company, Tulsa, is in Chicago for a vacation.

* * *

Fiske and Claude Hanley, sons of C. W. Hanley, of the Gulf Production Company, Fort Worth, Tex., are in Chicago on the Texas-Oklahoma Boy Scouts Special.

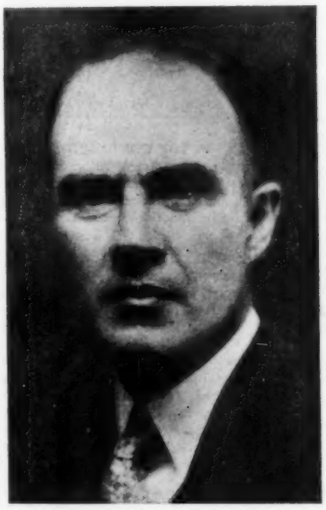
* * *

C. L. Hightower, head of the safety department for the Texas Pacific Coal & Oil Company, Fort Worth, Tex., and family, motored to Union Church, Miss., to spend two weeks.

* * *

R. H. Morris has left the Midland, Tex., offices, the California Company, where he was chief production clerk, to become cashier in the California Company's general office at Dallas, Tex.

Men of the Industry



J. E. ROUSE

J. E. Rouse, recently promoted to assistant general manager of manufacturing for the Standard Oil Company (Indiana), with an office in Chicago, had been manager of the company's manufacturing activities in the Rocky Mountain division since July 1, 1931, with headquarters in Casper, Wyo. Before that he was superintendent of the company's plants in Casper.

A native of the Rocky Mountain region, Mr. Rouse has been associated with the oil industry in the western states for years. Soon after graduation in mechanical engineering at Brown University in 1913, he was employed in the Bayonne refinery of the Standard Oil Company of New Jersey; but in 1914 he entered the service of the Continental Oil Company at Trinidad and Florence, Colo. Four years later he became superintendent of the lubricating department of the Midwest Refining Company, which position he continued to fill when the Standard of Indiana took over Midwest. He was appointed to the post of general superintendent of all Casper plants in 1929.

As assistant general manager of manufacturing for the company Mr. Rouse will assist in direction of manufacturing activities at the 13 plants operated by the Indiana company and subsidiaries.

Frank R. Seaver, an executive of the Doheny Oil Company, sailed from New York for Europe last week.

* * *

Tom Freeman, of the land department of the Texas Company at Fort Worth, Tex., is a Denver, Colo., visitor.

* * *

Joe Zaba, engineer of the Rio Bravo Oil Company, Houston, Tex., has returned from a vacation spent at Kerrville, Tex.

* * *

Herbert L. Pratt, Jr., of the Standard Oil Company of New York, accompanied by Mrs. Pratt, sailed from New York last week for Europe.

* * *

Fred L. Daugherty, Sinclair Prairie Oil Company, was transferred from the Madison, Kans., district to the Wheat-Mentone Field, Reeves County, Texas.

* * *

H. H. Shaw, of the Texas Pacific Coal & Oil Company, Fort Worth, Tex., has motored to Louisville, Ky., with his family, to spend their vacation.

* * *

Cullen W. Wreath, petroleum engineer, the California Company, has been transferred from the Midland, Tex., office to the Yates Pool, Pecos County, Texas.

* * *

Carl Russ, assistant superintendent, Gulf Production Company, Houston, Tex., has returned from a motor trip to the Century of Progress at Chicago, and to Detroit, Mich.

* * *

John B. De Maria has been re-elected president and general manager of the Italo Petroleum Corporation of America at the annual meeting held in San Francisco, Calif.

* * *

Joe H. Staley, independent operator of Wichita Falls and East Texas, will be married to Miss Mildred Lucille Wilkerson of Shreveport, La., on September 5, in that city.

* * *

Ralph O. Dietler, vice president of the Stanolind Crude Oil Purchasing Company, Tulsa, was in Houston, Tex., last week inspecting the company's new pipe line project to Texas City.

* * *

A. R. Wilson, division manager of the producing department of the Texas Company for the Rocky Mountain area, has returned to Denver, Colo., headquarters from New York where he went to consult with the directors.

* * *

Robert L. Hague, president of the Standard Shipping Company, marine subsidiary of the Standard Oil Company (New Jersey), has donated a silver trophy which will be contested for in the annual race of life boats from ocean-going liners, to be held in New York Harbor on Labor Day.

* * *

J. W. Hoover, geologist with the California Company and who has been in the San Antonio, Tex., office of the company for several months, is leaving for California and after a few weeks there will go to Arabia for the company. Oil companies affiliated with the California Company have extensive oil properties in Arabia.

* * *

M. J. Norrell has been appointed manager of the industrial relations department by the Magnolia Petroleum Company, Dallas, Tex. The appointment followed a meeting of some 250 representatives of the company's 8,500 employes at which time an employes' representation plan was formed. Mr. Norrell has been advertising manager and retail sales manager for the company. His new work will place him in charge of the company's personnel work, including co-operation with the representation plan; of safety, the company building and land, insurance program, hospitalization plan and other matters pertaining to employes of the company.

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has always called for strict integrity in the design, manufacture and service of pumps for the oil industry.

Gaso Pumps are made of the highest quality materials—workmanship is expert and painstaking—prices are the lowest possible consistent with the quality of the products.

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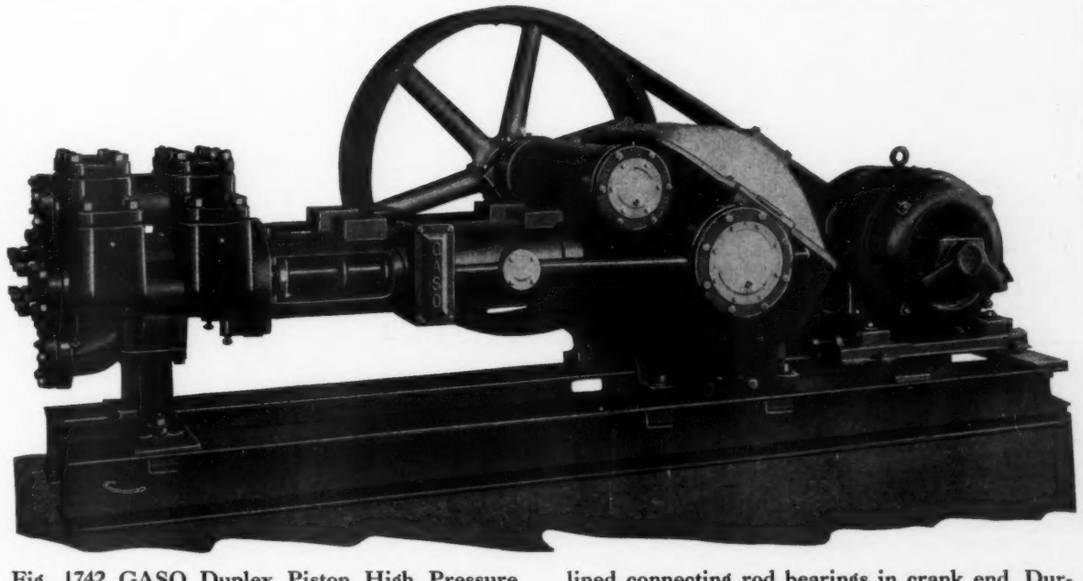

Fig. 1742 GASO Duplex Piston High Pressure Discharge Pump, shown above with V-rope drive from electric motor, has capacities from 54 bbls. per hour at 1500 lbs. to 250 bbls. at 750 lbs. Timken bearings, sealed off from crank case, center drive Herringbone gears, removable steel shell, babbitt lined connecting rod bearings in crank end, Durabla Stainless Steel valves, bronze seats, removable liners—are some of the features which make for efficient operation.

Send your requirements for full information on GASO pumps to meet your particular needs.

GASO PUMPS
for every oil industry need

NATURAL GAS DEVELOPMENTS

Lone Star System Adds 400 Under Recovery Code

DALLAS, Tex., Aug. 28.—Operation of the Lone Star gas system under the national code for the natural gas industry will give employment in the immediate future to approximately 400 persons and increase purchasing power by a minimum of $500,000, L. B. Denning, president, said.

Companies comprising the system are the Lone Star Gas Co., Dallas Gas Co., Fort Worth division of Lone Star, County Gas Co., Municipal Gas Co., Community Natural Gas Co., Lone Star Gasoline Co., Texas Cities Gas Co., Stamford & Western Gas Co. and Northwest Texas Gas Co. They operate in Texas and Oklahoma territory.

Employment increases will be principally in the field, pipe lines and compressor station operations. Most of the additional employes already have been engaged.

"The Lone Star system," Mr. Denning said, "did not make reductions in wages or reduce working forces during the depression period to the extent adopted by many other concerns privately owned and operated.

"The real test of the success of the national recovery program is yet to come. Merely putting men on payrolls will not pull this country out of its present difficulties. People generally must begin to purchase the many things which through fear or because of lack of funds they have denied themselves. It is hoped that the present movement will again establish confidence and the people of our country will start the cycle of business on the upward trend so that more men may obtain employment.

"The natural gas industry is entirely in sympathy with the President's program and will co-operate in every reasonable way to make the program a success."

Plan to Supply Emporia By Inland Pipe Line Co.

TOPEKA, Kans., Aug. 28.—There may be competition for supplying the city of Emporia with natural gas. The State Corporation Commission has announced it has issued a certificate of convenience and necessity to the Inland Pipe Line Co. of Emporia, giving it authority to build a pipe line from the Burrton gas fields to Emporia, supplying any cities along the way which may wish to buy the gas. The company also contemplates the extension of its lines to Osage City, Burlingame and Americus.

The Inland company proposes to offer gas at 30 cents per 1,000 feet at the city gates.

OKLAHOMA CITY FRANCHISE

Opposition to appointment of a citizens' committee to study the gas franchise problem at Oklahoma City and negotiate for a new franchise may develop in the city council, although a majority apparently was in tacit agreement on the committee plan. A test vote will be taken at the next meeting when the naming of the committee may be considered. The council's utilities committee, composed of J. E. Taylor, Art Estabrook and C. R. Donart made the recommendation unanimously.

Taylor declared it would require several months to study the franchise problem and that this was none too soon to get started on it as the Oklahoma Natural Gas Corp.'s franchise expires in October, 1934.

Program for International Gas Day and A.G.A. Annual Meeting at Chicago

World leaders of the gas industry will be in Chicago September 26 when International Gas Industry Day will be celebrated at the Century of Progress Exposition in honor of the International Gas Conference and fifteenth annual convention of the American Gas Association.

Representatives of the industry will come from Australia, Austria, Belgium, Denmark, England, France, Italy, Japan, New Zealand, Poland and Switzerland.

Austria will be represented by delegates from Oesterreichischer Verein von Gas- und Wasserfachmanner; Denmark, by delegates from the Danish Gas Association; France, by delegates from l'Association Technique de l'Industrie du Gaz en France; Italy, from Federazione Nazionale Fascista Industrie Gas et Acquedotti; Japan, from the Imperial Gas Association; New Zealand, from the New Zealand Gas Institute; Poland, from Zrzeszenie Gasownikow i Wodociqgowcow Polskich; Great Britain, by delegates from the Institution of Gas Engineers, the National Gas Council of Great Britain and Ireland, the Irish Association of Gas Managers, North British Association of Gas Managers; and Australia, by delegates from Australian Gas Institute. Belgium will be represented by the president of the Belgian Gas and Water Association. The president of the International Gas Union, M. Mougin, of Zurich, Switzerland, is expected to be among the visitors.

Delegates from England, France, Belgium and Switzerland plan to attend the annual convention of the Canadian Gas Association, at Ottawa, September 18 and 19.

The first general session will take place at Stevens Hotel the forenoon of September 26. General sessions will take place on the mornings of Tuesday, Wednesday and Thursday, September 26, 27 and 28, in the Grand ball room of the Stevens.

On Monday, September 25, the Natural Gas Department will hold two meetings at the Stevens, at 9:30 a.m. and 2 p.m. The annual meeting and dinner of the Natural Gas Department's executive, managing and advisory committees will take place that night at 6:30 o'clock in the Tower ball room at the Stevens.

Speakers who will be heard at the natural gas sessions include H. C. Cooper, of Pittsburgh, chairman; George W. Ratcliffe, Manufacturers Light & Heat Co., Pittsburgh; Maj. T. J. Strickler, Kansas City Gas Co.; Paul S. Clapp, Columbia Gas & Electric Corp., New York; G. J. Neuner, Panhandle Eastern Pipe Line Co., Kansas City, Mo.; F. C. Hamilton, Henry L. Doherty & Co., New York; E. M. Tharp, Ohio Fuel Gas Co., Columbus, Ohio; Frank Wills, Pacific Gas & Electric Corp., San Francisco; Harry E. Randall, United Gas Public Service Co., Houston, Tex., and J. H. Dunn, Lone Star Gas Co., Dallas, Tex.

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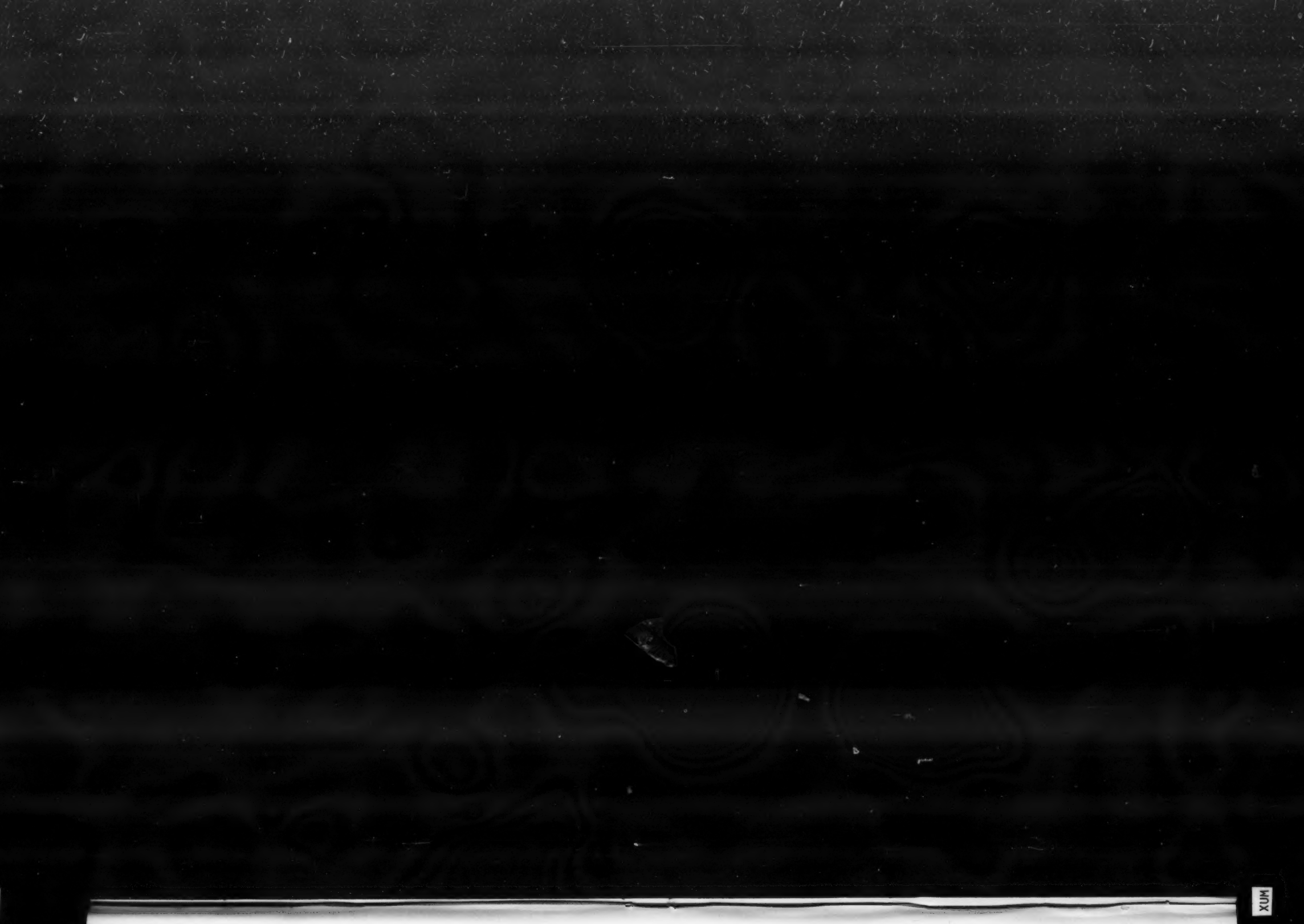

NATURAL GAS DEVELOPMENTS

Lone Star System Adds 400 Under Recovery Code

DALLAS, Tex., Aug. 28.—Operation of the Lone Star gas system under the national code for the natural gas industry will give employment in the immediate future to approximately 400 persons and increase purchasing power by a minimum of $500,000, L. B. Denning, president, said.

Companies comprising the system are the Lone Star Gas Co., Dallas Gas Co., Fort Worth division of Lone Star, County Gas Co., Municipal Gas Co., Community Natural Gas Co., Lone Star Gasoline Co., Texas Cities Gas Co., Stamford & Western Gas Co. and Northwest Texas Gas Co. They operate in Texas and Oklahoma territory.

Employment increases will be principally in the field, pipe lines and compressor station operations. Most of the additional employes already have been engaged.

"The Lone Star system," Mr. Denning said, "did not make reductions in wages or reduce working forces during the depression period to the extent adopted by many other concerns privately owned and operated.

"The real test of the success of the national recovery program is yet to come. Merely putting men on payrolls will not pull this country out of its present difficulties. People generally must begin to purchase the many things which through fear or because of lack of funds they have denied themselves. It is hoped that the present movement will again establish confidence and the people of our country will start the cycle of business on the upward trend so that more men may obtain employment.

"The natural gas industry is entirely in sympathy with the President's program and will co-operate in every reasonable way to make the program a success."

Plan to Supply Emporia By Inland Pipe Line Co.

TOPEKA, Kans., Aug. 28.—There may be competition for supplying the city of Emporia with natural gas. The State Corporation Commission has announced it has issued a certificate of convenience and necessity to the Inland Pipe Line Co. of Emporia, giving it authority to build a pipe line from the Burrton gas fields to Emporia, supplying any cities along the way which may wish to buy the gas. The company also contemplates the extension of its lines to Osage City, Burlingame and Americus.

The Inland company proposes to offer gas at 30 cents per 1,000 feet at the city gates.

OKLAHOMA CITY FRANCHISE

Opposition to appointment of a citizens' committee to study the gas franchise problem at Oklahoma City and negotiate for a new franchise may develop in the city council, although a majority apparently was in tacit agreement on the committee plan. A test vote will be taken at the next meeting when the naming of the committee may be considered. The council's utilities committee, composed of J. E. Taylor, Art Estabrook and C. R. Donart made the recommendation unanimously.

Taylor declared it would require several months to study the franchise problem and that this was none too soon to get started on it as the Oklahoma Natural Gas Corp.'s franchise expires in October, 1934.

Program for International Gas Day and A.G.A. Annual Meeting at Chicago

World leaders of the gas industry will be in Chicago September 26 when International Gas Industry Day will be celebrated at the Century of Progress Exposition in honor of the International Gas Conference and fifteenth annual convention of the American Gas Association.

Representatives of the industry will come from Australia, Austria, Belgium, Denmark, England, France, Italy, Japan, New Zealand, Poland and Switzerland.

Austria will be represented by delegates from Oesterreichischer Verein von Gas- und Wasserfachmanner; Denmark, by delegates from the Danish Gas Association; France, by delegates from l'Association Technique de l'Industrie du Gaz en France; Italy, from Federazione Nazionale Fascista Industrie Gas et Acquedotti; Japan, from the Imperial Gas Association; New Zealand, from the New Zealand Gas Institute; Poland, from Zrzeszenie Gasownikow i Wodociqgowcow Polskich; Great Britain, by delegates from the Institution of Gas Engineers, the National Gas Council of Great Britain and Ireland, the Irish Association of Gas Managers, North British Association of Gas Managers; and Australia, by delegates from Australian Gas Institute. Belgium will be represented by the president of the Belgian Gas and Water Association. The president of the International Gas Union, M. Mougin, of Zurich, Switzerland, is expected to be among the visitors.

Delegates from England, France, Belgium and Switzerland plan to attend the annual convention of the Canadian Gas Association, at Ottawa, September 18 and 19.

The first general session will take place at Stevens Hotel the forenoon of September 26. General sessions will take place on the mornings of Tuesday, Wednesday and Thursday, September 26, 27 and 28, in the Grand ball room of the Stevens.

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Minneapolis, Minnesota
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Norfolk, Virginia
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CINCINNATI MACHINERY & SUPPLY CO.
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55,000 OR 66,000-BBL. TANKS
Will move and re-erect on your grade one or more steel roof storage tanks, practically new, anywhere in United States at great saving. If you have crude oil, fuel oil, gas oil or gasoline we can build the storage.
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64 North Second St., Kansas City, Kans.

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HOLT CATERPILLAR 5-TON TRACTORS
Have 30 5-ton and 1 10-ton. Light usage, Government purchase, located Ft. Knox, Ky., $300 for 5-ton, $600 for 10-ton. Adaptable for oil industry.
O. C. Evans, Mt. Sterling, Ky.

10 TO 165 HP Gas and Oil Engines, Commercial or Oil Country types; Reversing and Straightaway clutches. Air compressors, direct connected or belt driven. All equipment rebuilt and guaranteed. Write or wire us your requirements. Inland Iron Works Co., Okmulgee, Oklahoma.

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We purchased all the pumping equipment of the Sinclair pump station at Teapot Dome, including two 600-H.P. McIntosh and Seymour Diesel engines with direct connected high pressure Worthington pump, buildings, water towers, pipe, valves, etc. Will sell all or any part. All equipment plant erected in 1923 and out of service in 1927. Everything guaranteed A-1 condition. Wire or write Contractors Machinery Company, 2645 Southwest Blvd., Kansas City, Mo., or W. C. Berry, 64 North Second St., Kansas City, Kansas.

BARGAINS—Demonstrator Arc Welders, Guaranteed. Electric, Gasoline Engine, Belted—All with "Simplified" control. 30 Days' Trial, Terms. Hobart Bros., Used Equipment Division, Box OG-73, Troy, Ohio.

ONE 165 H.P. Type 10 Bessemer Direct Driven Compressor in good running condition. Also 2 spare power cylinders. Bargain. Nolan Sales Corp., Tulsa, Okla.

Chemists

GINTER CHEMICAL LABORATORY
OIL - GAS - WATER
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Tulsa

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WANT—Roller wall map of Kansas. Prefer scale 2" to mile. Smaller scale considered. Address Box F-721, The Oil and Gas Journal, Tulsa, Okla.

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CRUDE OIL WANTED
We buy all grades of crude oils, and pay premiums for special grades. We lay lines and advance money on crude oil in storage. Address Box F-750, The Oil and Gas Journal, Tulsa, Okla.

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HENRY W. BENSON ASSOCIATES, INC.
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PATENT ATTORNEY—GRADUATE ENGINEER—(M.E., Ph.D.). Ten years technical experience. Five years patent experience including oil. Desire position directing research providing patent protection. Box F-763, The Oil and Gas Journal, Tulsa, Oklahoma.

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American, experienced in design, construction and operation complete brewing and malting plants, estimator and negotiator, biochemical and processing research, seeks connection as technical assistant to capital, contracting engineers or equipment manufacturer established or entering field. Write Box F-773, The Oil and Gas Journal, Tulsa, Okla.

REFINERY SUPERINTENDENT and CHEMIST, ten years complete plant experience. Technical training. Available at once. Write Box F-770, The Oil and Gas Journal, Tulsa, Okla.

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PERPETUAL DEEDED ROYALTIES
Your selection of over 400,000 acres. Some major company blocks. H. H. White, Box 674, San Antonio, Tex.

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Chester Imes,
First National Bank Building,
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CHOICE INCOME OIL ROYALTIES. Kansas and Oklahoma, for investors and dealers. J. L. HANER, 105 McKibban Bldg., Muskogee, Okla.

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SOUTHWEST LOUISIANA acreage, large or small blocks, good oil prospects, for lease by owner to responsible parties on drilling contract.
S. Arthur Knapp, Lake Charles, La.

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Changes in copy must be in our office 10 days in advance of publication date.

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THE OIL AND GAS JOURNAL
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